

SEQUENCE LISTING

<110> Zhang, Hong-Xia
Blumwald, Eduardo

<120> PLANT FRUIT WITH ELEVATED POTASSIUM
LEVELS

<130> 529642000300

<150> US 60/395,637

<151> 2002-07-12

<160> 38

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 2178

<212> DNA

<213> Arabidopsis thaliana

<400> 1

```

cctctctggt tcgttcctcg tagacgaaga agaagaagaa tctcaggttt tagctttcga 60
agcttccaaa attttgaatt ttgatcttct gggctctttt gtaaatacaga ctgaagatat 120
ttagattacc cagaagtgtg tcaaggaatg gtttcagtgg acagcacgga aagataaaaag 180
agactttttt ttccagatth ttctgatcca aaatctgaat agttgttcat gttcttggtg 240
caaactctgga aagaggaagt ttgttggtat tagaagaaga taacaatggt ggattctcta 300
gtgtcgaaac tgccttcggt atcgacatct gatcacgctt ctgtggttgc gttgaatctc 360
tttggtgcac ttctttgtgc ttgtattggt cttggtcatc ttttggaaga gaatagatgg 420
atgaacgaat ccatcacgcg cttggtgatt gggctaggca ctggtgttac cattttgttg 480
attagtaaaag gaaaaagctc gcatcttctc gtcttttagt aagatctttt cttcatatat 540
cttttgccac ccattatatt caatgcaggg tttcaagtaa aaaagaagca gtttttccgc 600
aatttcgtga ctattatgct ttttggtgct gttgggacta ttatttcttg cacaatcata 660
tctctagggt taacacagtt ctttaagaag ttggacattg gaacctttga cttgggtgat 720
tatcttgcta ttggtgccat atttgctgca acagattcag tatgtacact gcaggttctg 780
aatcaagacg agacaccttt gctttacagt cttgtattcg gagagggtgt tgtgaatgat 840
gcaacgtcag ttgtggtctt caacgcgatt cagagctttg atctcactca cctaaaccac 900
gaagctgctt ttcattctct tggaaacttc ttgtatttgt ttctcctaag taccttgctt 960
ggtgctgcaa ccggtctgat aagtgcgtat gttatcaaga agctatactt tggaaggcac 1020
tcaactgacc gagagggtgc ccttatgatg cttatggcgt atctttctta tatgcttgct 1080
gagcttttgc acttgagcgg tatcctcact gtgttttctt gtggtattgt gatgtcccat 1140
tacacatggc acaatgtaac ggagagctca agaataacaa caaagcatac ctttgcaact 1200
ttgtcatttc ttgctggagac atttattttc ttgtatgttg gaatggatgc cttggacatt 1260
gacaagtgga gatccgtgag tgacacaccg ggaacatcga tcgcagttag ctcaatccta 1320
atgggtctgg tcatggttgg aagagcagcg ttcgtctttc cgttatcggt tctatctaac 1380
ttagccaaga agaatacaag cgagaaaatc aactttaaca tgcaggttgt gatttggttg 1440
tctggtctca tgagaggtgc tgtatctatg gctcttgcat acaacaagtt tacaagggcc 1500
gggcacacag atgtacgcgg gaatgcaatc atgatcacga gtacgataac tgtctgtctt 1560
tttagcacag tgggtgttgg tatgctgacc aaaccactca taagctacct attaccgcac 1620
cagaacgcca ccacgagcat gttatctgat gacaacaccc caaaatccat acatatccct 1680
ttgttggtgacc aagactcggt cattgagcct tcagggaacc acaatgtgcc tcggcctgac 1740
agtatacgtg gcttcttgac acggcccact cgaaccgtgc attactactg gagacaattt 1800
gatgactcct tcatgcgacc cgtcttttga ggtcgtggct ttgtaccctt tgttccaggt 1860
tctccaactg agagaaaccc tctgatctt agtaaggctt gagggtaacg tggaagaaaa 1920
gctttgatth tttttggtag aaaagggtga ttcaaattat gcttttgtgt aaattatcca 1980

```

```

tttgaatat tgtttgtgag gacagaaatc tgtcctaacg ttttgagagc agaaagcaaa 2040
acatggcaac tttgaagtgt ttgattgatg tatgtaatta tattcatatt tgttttgttg 2100
taacacaaac tacacatttg tttatgtttt gaatttgggt tttgcttcga aaaaaaaaaa 2160
aaaaaaaaa aaaaaaaaaa 2178

```

```

<210> 2
<211> 538
<212> PRT
<213> Arabidopsis thaliana

```

```

<400> 2
Met Leu Asp Ser Leu Val Ser Lys Leu Pro Ser Leu Ser Thr Ser Asp
 1           5           10           15
His Ala Ser Val Val Ala Leu Asn Leu Phe Val Ala Leu Leu Cys Ala
 20           25           30
Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Met Asn Glu
 35           40           45
Ser Ile Thr Ala Leu Leu Ile Gly Leu Gly Thr Gly Val Thr Ile Leu
 50           55           60
Leu Ile Ser Lys Gly Lys Ser Ser His Leu Leu Val Phe Ser Glu Asp
 65           70           75           80
Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly Phe
 85           90           95
Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Val Thr Ile Met Leu
100           105           110
Phe Gly Ala Val Gly Thr Ile Ile Ser Cys Thr Ile Ile Ser Leu Gly
115           120           125
Val Thr Gln Phe Phe Lys Lys Leu Asp Ile Gly Thr Phe Asp Leu Gly
130           135           140
Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp Ser Val Cys
145           150           155           160
Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr Ser Leu
165           170           175
Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Val Phe
180           185           190
Asn Ala Ile Gln Ser Phe Asp Leu Thr His Leu Asn His Glu Ala Ala
195           200           205
Phe His Leu Leu Gly Asn Phe Leu Tyr Leu Phe Leu Leu Ser Thr Leu
210           215           220
Leu Gly Ala Ala Thr Gly Leu Ile Ser Ala Tyr Val Ile Lys Lys Leu
225           230           235           240
Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu Met Met Leu
245           250           255
Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Asp Leu Ser Gly
260           265           270
Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr Thr Trp
275           280           285
His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His Thr Phe Ala
290           295           300
Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu Tyr Val Gly Met
305           310           315           320
Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp Thr Pro Gly
325           330           335
Thr Ser Ile Ala Val Ser Ser Ile Leu Met Gly Leu Val Met Val Gly
340           345           350
Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu Ala Lys
355           360           365

```

Lys Asn Gln Ser Glu Lys Ile Asn Phe Asn Met Gln Val Val Ile Trp
 370 375 380
 Trp Ser Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu Ala Tyr Asn
 385 390 395 400
 Lys Phe Thr Arg Ala Gly His Thr Asp Val Arg Gly Asn Ala Ile Met
 405 410 415
 Ile Thr Ser Thr Ile Thr Val Cys Leu Phe Ser Thr Val Val Phe Gly
 420 425 430
 Met Leu Thr Lys Pro Leu Ile Ser Tyr Leu Leu Pro His Gln Asn Ala
 435 440 445
 Thr Thr Ser Met Leu Ser Asp Asp Asn Thr Pro Lys Ser Ile His Ile
 450 455 460
 Pro Leu Leu Asp Gln Asp Ser Phe Ile Glu Pro Ser Gly Asn His Asn
 465 470 475 480
 Val Pro Arg Pro Asp Ser Ile Arg Gly Phe Leu Thr Arg Pro Thr Arg
 485 490 495
 Thr Val His Tyr Tyr Trp Arg Gln Phe Asp Asp Ser Phe Met Arg Pro
 500 505 510
 Val Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr
 515 520 525
 Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
 530 535

<210> 3
 <211> 542
 <212> PRT
 <213> Ipomoea nil

<400> 3
 Met Ala Phe Gly Leu Ser Ser Leu Leu Gln Asn Ser Asp Leu Phe Thr
 1 5 10 15
 Ser Asp His Ala Ser Val Val Ser Met Asn Leu Phe Val Ala Leu Leu
 20 25 30
 Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Val
 35 40 45
 Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr Gly Val Val
 50 55 60
 Ile Leu Leu Leu Ser Gly Gly Lys Ser Ser His Leu Leu Val Phe Ser
 65 70 75 80
 Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala
 85 90 95
 Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Val Asn Phe Met Thr Ile
 100 105 110
 Met Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Cys Ser Ile Ile Ser
 115 120 125
 Phe Gly Ala Val Lys Ile Phe Lys His Leu Asp Ile Asp Phe Leu Asp
 130 135 140
 Phe Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp Ser
 145 150 155 160
 Val Cys Thr Leu Gln Val Leu Ser Gln Asp Glu Thr Pro Leu Leu Tyr
 165 170 175
 Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val
 180 185 190
 Leu Phe Asn Ala Ile Gln Ser Phe Asp Met Thr Ser Phe Asp Pro Lys
 195 200 205
 Ile Gly Leu His Phe Ile Gly Asn Phe Leu Tyr Leu Phe Leu Ser Ser

210		215		220	
Thr Phe Leu Gly Val Gly Ile Gly Leu Leu Cys Ala Tyr Ile Ile Lys					
225		230		235	240
Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu Met					
	245		250		255
Met Leu Met Ser Tyr Leu Ser Tyr Ile Met Ala Glu Leu Phe Tyr Leu					
	260		265		270
Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr					
	275		280		285
Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Arg His Ser					
	290		295		300
Phe Ala Thr Leu Ser Phe Val Ala Glu Thr Phe Ile Phe Leu Tyr Val					
305		310		315	320
Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Val Lys Asn Ser					
	325		330		335
Gln Gly Leu Ser Val Ala Val Ser Ser Ile Leu Val Gly Leu Ile Leu					
	340		345		350
Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu					
	355		360		365
Ala Lys Lys Asn Ser Ser Asp Lys Ile Ser Phe Arg Gln Gln Ile Ile					
	370		375		380
Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala					
385		390		395	400
Tyr Asn Lys Phe Thr Thr Ser Gly His Thr Ser Leu His Glu Asn Ala					
	405		410		415
Ile Met Ile Thr Ser Thr Val Thr Val Val Leu Phe Ser Thr Val Val					
	420		425		430
Phe Gly Leu Met Thr Lys Pro Leu Ile Asn Leu Leu Leu Pro Pro His					
	435		440		445
Lys Gln Met Pro Ser Gly His Ser Ser Met Thr Thr Ser Glu Pro Ser					
	450		455		460
Ser Pro Lys His Phe Thr Val Pro Leu Leu Asp Asn Gln Pro Asp Ser					
465		470		475	480
Glu Ser Asp Met Ile Thr Gly Pro Glu Val Ala Arg Pro Thr Ala Leu					
	485		490		495
Arg Met Leu Leu Arg Thr Pro Thr His Thr Val His Arg Tyr Trp Arg					
	500		505		510
Lys Phe Asp Asp Ser Phe Met Arg Pro Val Phe Gly Gly Arg Gly Phe					
	515		520		525
Val Pro Phe Val Ala Gly Ser Pro Val Glu Gln Ser Pro Arg					
	530		535		540

<210> 4

<211> 556

<212> PRT

<213> Suaeda maritima

<400> 4

Met Leu Ser Gln Leu Ser Ser Phe Phe Ala Ser Lys Met Asp Met Val		
1	5	10
Ser Thr Ser Asp His Ala Ser Val Val Ser Met Asn Leu Phe Val Ala		
	20	25
Leu Leu Arg Gly Cys Ile Val Ile Gly His Leu Leu Glu Asn Arg		
	35	40
Trp Met Asn Glu Ser Ile Thr Ala Leu Leu Ile Gly Leu Ser Thr Gly		
	50	55
		60

Ile	Ile	Ile	Leu	Leu	Ile	Ser	Gly	Gly	Lys	Ser	Ser	His	Leu	Leu	Val
65					70				75						80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
				85					90						95
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile
			100					105					110		
Thr	Ile	Ile	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Val	Ser	Phe	Ile	Ile
		115					120					125			
Ile	Ser	Leu	Gly	Ser	Ile	Ala	Ile	Phe	Gln	Lys	Met	Asp	Ile	Gly	Ser
	130					135					140				
Leu	Glu	Leu	Gly	Asp	Leu	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr
145				150						155					160
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu
			165						170					175	
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
			180					185					190		
Val	Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	Phe	Asp	Leu	Thr	His	Ile	Asp
		195					200					205			
His	Arg	Ile	Ala	Phe	Gln	Phe	Gly	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Phe
	210					215					220				
Ala	Ser	Thr	Leu	Leu	Gly	Ala	Val	Thr	Gly	Leu	Leu	Ser	Ala	Tyr	Val
225					230					235					240
Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala
			245						250					255	
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
			260					265					270		
Tyr	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser
		275					280					285			
His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys
	290					295					300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Ile	Phe	Ile	Phe	Leu
305					310					315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Phe	Val	Ser
			325						330					335	
Asp	Ser	Pro	Gly	Thr	Ser	Val	Ala	Val	Ser	Ser	Ile	Leu	Leu	Gly	Leu
			340					345					350		
His	Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Phe	Ala	Phe	Leu	Met
		355					360					365			
Asn	Leu	Ser	Lys	Lys	Ser	Asn	Ser	Glu	Lys	Val	Thr	Phe	Asn	Gln	Gln
	370					375					380				
Ile	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Lys	Ser	Ala	Val	Ser	Val	Ala
385					390					395					400
Leu	Ala	Tyr	Asn	Gln	Phe	Ser	Arg	Ser	Gly	His	Thr	Gln	Leu	Arg	Gly
			405						410					415	
Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr
		420						425					430		
Met	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Leu	Phe	Met	Leu	Pro
		435					440					445			
Gln	Pro	Lys	His	Phe	Thr	Ser	Ala	Ser	Thr	Val	Ser	Asp	Leu	Gly	Ser
	450					455					460				
Pro	Lys	Ser	Phe	Ser	Leu	Pro	Leu	Leu	Glu	Asp	Arg	Gln	Asp	Ser	Glu
465					470					475					480
Ala	Asp	Leu	Gly	Asn	Asp	Asp	Glu	Glu	Ala	Tyr	Pro	Arg	Gly	Thr	Ile
			485						490					495	
Ala	Arg	Pro	Thr	Ser	Leu	Arg	Met	Leu	Leu	Asn	Ala	Pro	Thr	His	Thr
		500						505				510			
Val	His	His	Tyr	Trp	Arg	Arg	Phe	Asp	Asp	Tyr	Phe	Met	Arg	Pro	Val

	515		520		525
Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr Glu					
530		535		540	
Gln Ser Ile Thr Asn Phe Val Thr Glu Asn Ile Ser					
545		550		555	

<210> 5
 <211> 540
 <212> PRT
 <213> Petunia x hybrida

<400> 5

Met Ala Phe Asp Phe Gly Thr Leu Leu Gly Asn Val Asp Arg Leu Ser	
1	5
Thr Ser Asp His Gln Ser Val Val Ser Ile Asn Leu Phe Val Ala Leu	10
	15
	20
Ile Cys Ala Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp	25
	30
	35
Met Asn Glu Ser Ile Thr Ala Leu Val Ile Gly Ser Cys Thr Gly Ile	40
	45
	50
Val Ile Leu Leu Ile Ser Gly Gly Lys Asn Ser His Ile Leu Val Phe	55
65	60
	65
Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn	70
	75
	80
	85
Ala Gly Phe Gln Val Lys Lys Lys Ser Phe Phe Arg Asn Phe Ser Thr	90
	95
	100
Ile Met Leu Phe Gly Ala Leu Gly Thr Leu Ile Ser Phe Ile Ile Ile	105
	110
	115
Ser Leu Gly Ala Ile Gly Ile Phe Lys Lys Met Asn Ile Gly Ser Leu	120
	125
	130
Glu Ile Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp	135
145	140
	145
Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu	150
	155
	160
	165
Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val	170
	175
	180
Val Leu Phe Asn Ala Ile Gln Asn Phe Asp Leu Ser His Ile Asp Thr	185
	190
	195
Gly Lys Ala Met Glu Leu Val Gly Asn Phe Leu Tyr Leu Phe Ala Ser	200
	205
	210
Ser Thr Ala Leu Gly Val Ala Ala Gly Leu Leu Ser Ala Tyr Ile Ile	215
	220
	225
Lys Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Ile	230
	235
	240
	245
Met Ile Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Tyr	250
	255
	260
Leu Ser Ala Ile Leu Thr Val Phe Phe Ser Gly Ile Val Met Ser His	265
	270
	275
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys His	280
	285
	290
Thr Phe Ala Thr Leu Ser Phe Ile Ala Glu Ile Phe Ile Phe Leu Tyr	295
305	300
	305
Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Val Ser Asp	310
	315
	320
	325
Ser Pro Gly Ile Ser Val Gln Val Ser Ser Ile Leu Leu Gly Leu Val	330
	335
	340
	345
	350

Leu Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Thr Lys Lys Thr Pro Glu Ala Lys Ile Ser Phe Asn Gln Gln Val
 370 375 380
 Thr Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu
 385 390 395 400
 Ala Tyr Asn Gln Phe Thr Arg Gly Gly His Thr Gln Leu Arg Ala Asn
 405 410 415
 Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Val
 420 425 430
 Val Phe Gly Leu Met Thr Lys Pro Leu Ile Arg Ile Leu Leu Pro Ser
 435 440 445
 His Lys His Leu Ser Arg Met Ile Ser Ser Glu Pro Thr Thr Pro Lys
 450 455 460
 Ser Phe Ile Val Pro Leu Leu Asp Ser Thr Gln Asp Ser Glu Ala Asp
 465 470 475 480
 Leu Glu Arg His Val Pro Arg Pro His Ser Leu Arg Met Leu Leu Ser
 485 490 495
 Thr Pro Ser His Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asn Ala
 500 505 510
 Phe Met Arg Pro Val Phe Gly Gly Arg Gly Phe Val Pro Phe Ala Pro
 515 520 525
 Gly Ser Pro Thr Asp Pro Val Gly Gly Asn Leu Gln
 530 535 540

<210> 6

<211> 555

<212> PRT

<213> *Torenia hybrida*

<400> 6

Met Gly Phe Glu Ser Val Ile Lys Leu Ala Ala Ser Glu Thr Asp Asn
 1 5 10 15
 Leu Trp Ser Ser Gly His Gly Ser Val Val Ala Ile Thr Leu Phe Val
 20 25 30
 Thr Leu Leu Cys Thr Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn
 35 40 45
 Arg Trp Met Asn Glu Ser Ile Ile Ala Leu Ile Ile Gly Leu Ala Thr
 50 55 60
 Gly Val Ile Ile Leu Leu Ile Ser Gly Gly Lys Ser Ser His Leu Leu
 65 70 75 80
 Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Ala Leu Pro Pro Ile Ile
 85 90 95
 Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Ser Phe Phe Arg Asn Phe
 100 105 110
 Ala Thr Ile Met Met Phe Gly Ala Val Gly Thr Leu Ile Ser Phe Ile
 115 120 125
 Ile Ile Ser Leu Gly Thr Ile Ala Phe Phe Pro Lys Met Asn Met Arg
 130 135 140
 Leu Gly Val Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr
 145 150 155 160
 Asp Ser Val Cys Thr Leu Gln Val Leu Ser Gln Asp Glu Thr Pro Leu
 165 170 175
 Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser
 180 185 190
 Val Val Leu Phe Asn Ala Val Gln Asn Phe Asp Leu Pro His Met Ser

Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Val	
		35					40					45				
Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly	Val	Val	
	50					55					60					
Ile	Leu	Leu	Leu	Ser	Arg	Gly	Lys	Ser	Ser	His	Leu	Leu	Val	Phe	Ser	
65					70					75					80	
Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	
				85					90					95		
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Val	Asn	Phe	Met	Thr	Ile	
		100					105						110			
Met	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Cys	Ser	Ile	Ile	Ser	
	115						120					125				
Phe	Gly	Ala	Val	Lys	Ile	Phe	Lys	His	Leu	Asp	Ile	Asp	Phe	Leu	Asp	
	130					135					140					
Phe	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr	Asp	Ser	
145					150					155					160	
Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Leu	Leu	Tyr	
				165					170					175		
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	
			180					185					190			
Leu	Phe	Asn	Ala	Ile	Gln	Ser	Phe	Asp	Met	Thr	Ser	Phe	Asp	Pro	Lys	
		195					200					205				
Ile	Gly	Leu	His	Phe	Ile	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Leu	Ser	Ser	
	210					215					220					
Thr	Phe	Leu	Gly	Val	Gly	Ile	Gly	Leu	Leu	Cys	Ala	Tyr	Ile	Ile	Lys	
225					230					235					240	
Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu	Met	
				245					250					255		
Met	Leu	Met	Ser	Tyr	Leu	Ser	Tyr	Ile	Met	Ala	Glu	Leu	Phe	Tyr	Leu	
			260					265					270			
Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr	
		275					280					285				
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Arg	His	Ser	
	290					295					300					
Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Thr	Phe	Ile	Phe	Leu	Tyr	Val	
305					310					315					320	
Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Lys	Phe	Val	Lys	Asn	Ser	
				325					330					335		
Gln	Gly	Leu	Ser	Val	Ala	Val	Ser	Ser	Ile	Leu	Val	Gly	Leu	Ile	Leu	
			340					345					350			
Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	
	355						360					365				
Ala	Lys	Lys	Asn	Ser	Ser	Asp	Lys	Ile	Ser	Phe	Arg	Gln	Gln	Ile	Ile	
	370					375					380					
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	
385					390					395					400	
Tyr	Asn	Lys	Phe	Thr	Thr	Ser	Gly	His	Thr	Ser	Leu	His	Glu	Asn	Ala	
				405					410					415		
Ile	Met	Ile	Thr	Ser	Thr	Val	Thr	Val	Val	Leu	Phe	Ser	Thr	Val	Val	
			420					425					430			
Phe	Gly	Leu	Met	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Leu	Pro	Pro	His	
		435					440					445				
Lys	Gln	Ile	Ala	Ser	Gly	His	Ser	Ser	Met	Thr	Thr	Ser	Glu	Pro	Ser	
	450					455					460					
Ser	Pro	Lys	His	Phe	Ala	Val	Pro	Leu	Leu	Asp	Asn	Gln	His	Asp	Ser	
465					470					475					480	
Glu	Ser	Asp	Met	Ile	Thr	Gly	Pro	Glu	Val	Ala	Arg	Pro	Thr	Ala	Leu	

				485					490					495			
Arg	Met	Leu	Leu	Arg	Thr	Pro	Thr	His	Thr	Val	His	Arg	Tyr	Trp	Arg		
			500					505					510				
Lys	Phe	Asp	Asp	Ser	Phe	Met	Arg	Pro	Val	Phe	Gly	Gly	Arg	Gly	Phe		
		515					520					525					
Val	Pro	Phe	Val	Ala	Gly	Ser	Pro	Ala	Glu	Gln	Ser	Pro	Arg				
	530					535					540						

<210> 8

<211> 575

<212> PRT

<213> Arabidopsis thaliana

<400> 8

Met	Ile	Ser	Pro	Val	Glu	His	Asp	Pro	Gln	Gly	Gln	Val	Lys	Gln	Gln		
1				5					10					15			
Gln	Ala	Ala	Gly	Val	Gly	Ile	Leu	Leu	Gln	Ile	Met	Met	Leu	Val	Leu		
		20					25						30				
Ser	Phe	Val	Leu	Gly	His	Val	Leu	Arg	Arg	His	Arg	Phe	His	Tyr	Leu		
		35					40					45					
Pro	Glu	Ala	Ser	Gly	Ser	Leu	Leu	Ile	Gly	Leu	Ile	Val	Gly	Ile	Leu		
	50					55					60						
Ala	Asn	Ile	Ser	Asp	Thr	Glu	Thr	Ser	Ile	Arg	Phe	Cys	Pro	Pro	Pro		
65				70						75				80			
Ser	Ile	Pro	Glu	Phe	Ser	Leu	Leu	Ser	Phe	Pro	Arg	Ser	Leu	Val	Cys		
			85						90					95			
Ser	Phe	Tyr	Ser	Val	Ser	Gly	Arg	Gly	Leu	Ile	Ser	Thr	Lys	Ser	Ser		
		100						105					110				
Ser	Ser	Cys	Phe	Cys	Cys	Leu	Pro	Ser	Tyr	Tyr	Ile	Leu	Cys	Phe	Asn		
		115					120					125					
Ile	Cys	Ile	Ser	Ser	Phe	Lys	Phe	Ala	Ala	Ala	Met	Leu	Cys	Ile	Met		
	130					135					140						
Asp	Val	Ile	Phe	Leu	Asp	Ile	Ile	His	Leu	Phe	Glu	Pro	Ser	Gln	Val		
145				150						155				160			
Ser	Val	Phe	Asn	Leu	Asn	His	Ser	Phe	Leu	Thr	Leu	Glu	Pro	Leu	Leu		
			165					170					175				
Pro	Leu	Leu	Ser	Ser	Glu	Leu	Leu	Ser	Leu	Gln	Leu	Leu	Leu	Val	Val		
		180						185					190				
Cys	Tyr	Leu	Gly	Gly	Ser	Met	Tyr	Leu	Met	Tyr	Lys	Leu	Pro	Phe	Val		
	195					200					205						
Glu	Cys	Leu	Met	Phe	Gly	Ala	Leu	Ile	Ser	Ala	Thr	Asp	Pro	Val	Thr		
	210					215					220						
Val	Leu	Ser	Ile	Phe	Gln	Val	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Ser	Val		
225					230					235					240		
Ser	Thr	Gly	Tyr	Lys	Tyr	Ser	His	Asp	Val	Gly	Thr	Asp	Val	Asn	Leu		
			245					250						255			
Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn	Asp	Ala	Val	Ser	Phe		
	260							265					270				
Tyr	Tyr	Leu	Leu	Arg	Tyr	Trp	Ala	Leu	Pro	Phe	Lys	Thr	Met	Ser	Leu		
	275					280						285					
Val	Asn	Arg	Gln	Ser	Ser	Ser	Gly	Glu	His	Phe	Phe	Met	Val	Val	Ile		
	290					295					300						
Arg	Phe	Phe	Glu	Thr	Phe	Ala	Gly	Ser	Met	Ser	Ala	Gly	Leu	Ala	Ile		
305					310						315				320		
Ser	Phe	Leu	Asn	Ser	Phe	Tyr	Thr	Val	Val	Phe	Thr	Leu	Leu	Ile	Leu		
			325					330						335			

Ser	Glu	His	Ile	Val	Asn	Val	Met	Ser	Leu	Phe	Ser	Leu	Phe	Ser	Thr
			340					345					350		
Ser	Ile	His	Ala	Cys	Arg	Arg	Cys	Trp	Ser	Leu	Arg	His	Cys	Phe	Tyr
		355					360					365			
Thr	Leu	His	Arg	Asn	Cys	Asn	Arg	Arg	Val	Met	Lys	Arg	Tyr	Thr	Phe
	370					375					380				
Ser	Asn	Leu	Ser	Glu	Ala	Ser	Gln	Ser	Phe	Val	Ser	Ser	Phe	Phe	His
385					390					395					400
Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Thr	Phe	Ile	Tyr	Met	Gly	Phe
				405					410					415	
Asp	Ile	Ala	Met	Glu	Gln	His	Ser	Trp	Ser	His	Val	Gly	Ala	Val	Asn
		420						425					430		
Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu	Phe	Arg	Gln	Glu	Asn	Gln
	435						440					445			
Lys	Ile	Pro	Met	Lys	His	Gln	Lys	Ala	Leu	Trp	Tyr	Ser	Gly	Leu	Arg
	450					455					460				
Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln	Ser	Leu	His	Asp	Leu	Pro
465					470					475					480
Glu	Gly	His	Gly	Gln	Ile	Ile	Phe	Thr	Ala	Thr	Thr	Thr	Ile	Val	Val
				485					490					495	
Val	Thr	Val	Thr	Phe	Val	Leu	Leu	Ile	Gly	Gly	Ser	Thr	Gly	Lys	Met
			500					505					510		
Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Asp	Leu	Asp	Asp	Ser	Met	Ser
		515					520					525			
Glu	Val	Asn	Ser	Arg	Arg	Ser	Thr	Leu	Ile	Ser	Leu	Asn	Ile	Gly	Ala
	530					535					540				
Ser	Ser	Asp	Glu	Asp	Thr	Ser	Ser	Ser	Gly	Ser	Arg	Phe	Lys	Met	Lys
545					550					555					560
Leu	Lys	Glu	Phe	His	Lys	Thr	Gly	Asp	Gly	Asp	Gly	Asp	Gly	Glu	
				565				570						575	

<210> 9

<211> 1146

<212> PRT

<213> Arabidopsis thaliana

<400> 9

Met	Thr	Thr	Val	Ile	Asp	Ala	Thr	Met	Ala	Tyr	Arg	Phe	Leu	Glu	Glu
1				5					10					15	
Ala	Thr	Asp	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Lys	Leu	Glu	Ser	Ser
			20					25					30		
Pro	Val	Asp	Ala	Val	Leu	Phe	Val	Gly	Met	Ser	Leu	Val	Leu	Gly	Ile
	35						40					45			
Ala	Ser	Arg	His	Leu	Leu	Arg	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Ala
	50					55					60				
Leu	Leu	Val	Ile	Gly	Ile	Ala	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Ala	Lys
65					70					75					80
His	Asn	Leu	Gly	Lys	Ile	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Glu	Ile
				85					90					95	
Asp	Pro	Glu	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Ala	Leu	Leu	Phe	Glu
			100					105					110		
Ser	Ser	Phe	Ser	Met	Glu	Val	His	Gln	Ile	Lys	Arg	Cys	Leu	Gly	Gln
		115					120					125			
Met	Val	Leu	Leu	Ala	Val	Pro	Gly	Val	Leu	Ile	Ser	Thr	Ala	Cys	Leu
	130					135					140				
Gly	Ser	Leu	Val	Lys	Val	Thr	Phe	Pro	Tyr	Glu	Trp	Asp	Trp	Lys	Thr

145					150				155				160
Ser	Leu	Leu	Leu	Gly	Gly	Leu	Leu	Ser	Ala	Thr	Asp	Pro	Val
				165					170				175
Val	Ala	Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Leu	Ser
				180				185				190	
Ile	Glu	Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Thr	Ala	Ile	Val
		195					200					205	
Gln	Leu	Phe	Leu	Lys	Met	Ala	Met	Gly	Gln	Asn	Ser	Asp	Trp
	210					215					220		
Ile	Ile	Lys	Phe	Leu	Leu	Lys	Val	Ala	Leu	Gly	Ala	Val	Gly
225						230				235			240
Leu	Ala	Phe	Gly	Ile	Ala	Ser	Val	Ile	Trp	Leu	Lys	Phe	Ile
			245						250				255
Asp	Thr	Val	Ile	Glu	Ile	Thr	Leu	Thr	Ile	Ala	Val	Ser	Tyr
		260						265				270	
Tyr	Tyr	Thr	Ala	Gln	Glu	Trp	Ala	Gly	Ala	Ser	Gly	Val	Leu
		275					280					285	
Met	Thr	Leu	Gly	Met	Phe	Tyr	Ala	Ala	Phe	Ala	Arg	Thr	Ala
	290					295					300		
Gly	Asp	Ser	Gln	Lys	Ser	Leu	His	His	Phe	Trp	Glu	Met	Val
305				310						315			320
Ile	Ala	Asn	Thr	Leu	Ile	Phe	Ile	Leu	Ser	Gly	Val	Val	Ile
			325						330				335
Gly	Ile	Leu	Asp	Ser	Asp	Lys	Ile	Ala	Tyr	Gln	Gly	Asn	Ser
		340						345				350	
Phe	Leu	Phe	Leu	Leu	Tyr	Val	Tyr	Ile	Gln	Leu	Ser	Arg	Val
		355					360					365	
Val	Gly	Val	Leu	Tyr	Pro	Leu	Leu	Cys	Arg	Phe	Gly	Tyr	Gly
	370					375					380		
Trp	Lys	Glu	Ser	Ile	Ile	Leu	Val	Trp	Ser	Gly	Leu	Arg	Gly
385				390						395			400
Ala	Leu	Ala	Leu	Ser	Leu	Ser	Val	Lys	Gln	Ser	Ser	Gly	Asn
			405						410				415
Ile	Ser	Lys	Glu	Thr	Gly	Thr	Leu	Phe	Leu	Phe	Phe	Thr	Gly
		420						425				430	
Val	Phe	Leu	Thr	Leu	Ile	Val	Asn	Gly	Ser	Thr	Thr	Gln	Phe
		435					440					445	
Arg	Leu	Leu	Arg	Met	Asp	Ile	Leu	Pro	Ala	Pro	Lys	Lys	Arg
	450				455						460		
Glu	Tyr	Thr	Lys	Tyr	Glu	Met	Leu	Asn	Lys	Ala	Leu	Arg	Ala
465				470					475				480
Asp	Leu	Gly	Asp	Asp	Glu	Glu	Leu	Gly	Pro	Ala	Asp	Trp	Pro
			485						490				495
Glu	Ser	Tyr	Ile	Ser	Ser	Leu	Lys	Gly	Ser	Glu	Gly	Glu	Leu
		500						505				510	
His	Pro	His	Asn	Gly	Ser	Lys	Ile	Gly	Ser	Leu	Asp	Pro	Lys
		515				520					525		
Lys	Asp	Ile	Arg	Met	Arg	Phe	Leu	Asn	Gly	Val	Gln	Ala	Thr
	530					535					540		
Glu	Met	Leu	Asp	Glu	Gly	Arg	Ile	Ser	Glu	Val	Thr	Ala	Asn
545				550					555				560
Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Gln	Val	Ser	Thr	Thr
			565					570					575
Asp	Trp	Arg	Gly	Leu	Lys	Pro	His	Val	Asn	Phe	Pro	Asn	Tyr
		580					585					590	
Phe	Leu	His	Ser	Lys	Val	Val	Pro	Arg	Lys	Leu	Val	Thr	Tyr
		595					600					605	

Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ala	Ala	Phe	Leu	Arg	610	615	620
Ala	His	Thr	Ile	Ala	Arg	Gln	Gln	Leu	Tyr	Asp	Phe	Leu	Gly	Glu	Ser	625	630	635
Asn	Ile	Gly	Ser	Ile	Val	Ile	Asn	Glu	Ser	Glu	Lys	Glu	Gly	Glu	Glu	645	650	655
Ala	Lys	Lys	Phe	Leu	Glu	Lys	Val	Arg	Ser	Ser	Phe	Pro	Gln	Val	Leu	660	665	670
Arg	Val	Val	Lys	Thr	Lys	Gln	Val	Thr	Tyr	Ser	Val	Leu	Asn	His	Leu	675	680	685
Leu	Gly	Tyr	Ile	Glu	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu	Glu	Glu	Lys	690	695	700
Glu	Ile	Ala	His	Leu	His	Asp	Ala	Val	Gln	Thr	Gly	Leu	Lys	Lys	Leu	705	710	715
Leu	Arg	Asn	Pro	Pro	Ile	Val	Lys	Leu	Pro	Lys	Leu	Ser	Asp	Met	Ile	725	730	735
Thr	Ser	His	Pro	Leu	Ser	Val	Ala	Leu	Pro	Pro	Ala	Phe	Cys	Glu	Pro	740	745	750
Leu	Lys	His	Ser	Lys	Lys	Glu	Pro	Met	Lys	Leu	Arg	Gly	Val	Thr	Leu	755	760	765
Tyr	Lys	Glu	Gly	Ser	Lys	Pro	Thr	Gly	Val	Trp	Leu	Ile	Phe	Asp	Gly	770	775	780
Ile	Val	Lys	Trp	Lys	Ser	Lys	Ile	Leu	Ser	Asn	Asn	His	Ser	Leu	His	785	790	795
Pro	Thr	Phe	Ser	His	Gly	Ser	Thr	Leu	Gly	Leu	Tyr	Glu	Val	Leu	Thr	805	810	815
Gly	Lys	Pro	Tyr	Leu	Cys	Asp	Leu	Ile	Thr	Asp	Ser	Met	Val	Leu	Cys	820	825	830
Phe	Phe	Ile	Asp	Ser	Glu	Lys	Ile	Leu	Ser	Leu	Gln	Ser	Asp	Ser	Thr	835	840	845
Ile	Asp	Asp	Phe	Leu	Trp	Gln	Glu	Ser	Ala	Leu	Val	Leu	Leu	Lys	Leu	850	855	860
Leu	Arg	Pro	Gln	Ile	Phe	Glu	Ser	Val	Ala	Met	Gln	Glu	Leu	Arg	Ala	865	870	875
Leu	Val	Ser	Thr	Glu	Ser	Ser	Lys	Leu	Thr	Thr	Tyr	Val	Thr	Gly	Glu	885	890	895
Ser	Ile	Glu	Ile	Asp	Cys	Asn	Ser	Ile	Gly	Leu	Leu	Leu	Glu	Gly	Phe	900	905	910
Val	Lys	Pro	Val	Gly	Ile	Lys	Glu	Glu	Leu	Ile	Ser	Ser	Pro	Ala	Ala	915	920	925
Leu	Ser	Pro	Ser	Asn	Gly	Asn	Gln	Ser	Phe	His	Asn	Ser	Ser	Glu	Ala	930	935	940
Ser	Gly	Ile	Met	Arg	Val	Ser	Phe	Ser	Gln	Gln	Ala	Thr	Gln	Tyr	Ile	945	950	955
Val	Glu	Thr	Arg	Ala	Arg	Ala	Ile	Ile	Phe	Asn	Ile	Gly	Ala	Phe	Gly	965	970	975
Ala	Asp	Arg	Thr	Leu	His	Arg	Arg	Pro	Ser	Ser	Leu	Thr	Pro	Pro	Arg	980	985	990
Ser	Ser	Ser	Ser	Asp	Gln	Leu	Gln	Arg	Ser	Phe	Arg	Lys	Glu	His	Arg	995	1000	1005
Gly	Leu	Met	Ser	Trp	Pro	Glu	Asn	Ile	Tyr	Ala	Lys	Gln	Gln	Gln	Glu	1010	1015	1020
Ile	Asn	Lys	Thr	Thr	Leu	Ser	Leu	Ser	Glu	Arg	Ala	Met	Gln	Leu	Ser	1025	1030	1035
Ile	Phe	Gly	Ser	Met	Val	Asn	Val	Tyr	Arg	Arg	Ser	Val	Ser	Phe	Gly	1045	1050	1055
Gly	Ile	Tyr	Asn	Asn	Lys	Leu	Gln	Asp	Asn	Leu	Leu	Tyr	Lys	Lys	Leu			

His Ala Phe Ala Thr Leu Ser Phe Val Ala Glu Val Phe Leu Phe Leu
 305 310 315 320
 Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Phe Val Ser
 325 330 335
 Asp Ser Pro Gly Ile Ser Val Ala Val Ser Ser Ile Leu Leu Gly Leu
 340 345 350
 Val Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Trp Leu Met
 355 360 365
 Asn Phe Ala Lys Lys Ser Gln Ser Glu Lys Val Thr Phe Asn Gln Gln
 370 375 380
 Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala
 385 390 395 400
 Leu Ala Tyr Asn Gln Phe Thr Arg Ser Gly His Thr Gln Leu Arg Gly
 405 410 415
 Asn Ala Ile Met Ile Thr Ser Thr Ile Ser Val Val Leu Phe Ser Thr
 420 425 430
 Met Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Met Phe Leu Leu Pro
 435 440 445
 Gln Pro Lys His Phe Thr Ser Cys Ser Thr Val Ser Asp Val Gly Ser
 450 455 460
 Pro Lys Ser Tyr Ser Leu Pro Leu Leu Glu Gly Asn Gln Asp Tyr Glu
 465 470 475 480
 Val Asp Val Gly Asn Gly Asn His Glu Asp Thr Thr Glu Pro Arg Thr
 485 490 495
 Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Asn Ala Pro Thr His
 500 505 510
 Thr Val His His Tyr Trp Arg Lys Phe Asp Asp Ser Phe Met Arg Pro
 515 520 525
 Val Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr
 530 535 540
 Glu Gln Ser Thr Asn Asn Leu Val Asp Arg Thr
 545 550 555

<210> 11

<211> 985

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 11

Met Ala Ile Trp Glu Gln Leu Glu Val Ser Lys Ala His Val Ala Tyr
 1 5 10 15
 Ala Cys Val Gly Val Phe Ser Ser Ile Phe Ser Leu Val Ser Leu Tyr
 20 25 30
 Val Lys Glu Lys Leu Tyr Ile Gly Glu Ser Thr Val Ala Gly Ile Phe
 35 40 45
 Gly Leu Ile Val Gly Pro Val Cys Leu Asn Trp Phe Asn Pro Leu Lys
 50 55 60
 Trp Gly Asn Ser Asp Ser Ile Thr Leu Glu Ile Thr Arg Ile Val Leu
 65 70 75 80
 Cys Leu Gln Ile Phe Ala Val Ala Val Glu Leu Pro Arg Lys Tyr Met
 85 90 95
 Leu Lys His Trp Val Ser Val Thr Met Leu Leu Leu Pro Val Met Thr
 100 105 110
 Ala Gly Trp Leu Ile Ile Gly Leu Phe Val Trp Ile Leu Ile Pro Gly
 115 120 125
 Leu Asn Phe Ser Ala Ser Leu Leu Ile Ser Ala Cys Ile Thr Ala Thr

Arg	Ala	Ala	Thr	Phe	Ala	Leu	Ser	Thr	Ala	Val	Asn	Thr	Gln	Arg	Asn
	595						600					605			
Glu	Glu	Ile	Gly	Met	Gly	Gly	Asp	Glu	Glu	Glu	Asp	Glu	Tyr	Thr	Pro
	610					615					620				
Glu	Lys	Glu	Tyr	Ser	Asp	Asn	Tyr	Asn	Asn	Thr	Pro	Ser	Phe	Glu	Ser
625					630					635					640
Ser	Glu	Arg	Ser	Ser	Ser	Leu	Arg	Gly	Arg	Thr	Tyr	Val	Pro	Arg	Asn
				645					650					655	
Arg	Tyr	Asp	Gly	Glu	Glu	Thr	Glu	Ser	Glu	Ile	Glu	Ser	Glu	Asp	Glu
			660					665					670		
Met	Glu	Asn	Glu	Ser	Glu	Arg	Ser	Met	Ala	Ser	Ser	Glu	Glu	Arg	Arg
		675					680					685			
Ile	Arg	Lys	Met	Lys	Glu	Glu	Met	Lys	Pro	Gly	Thr	Ala	Tyr	Leu	
	690					695				700					
Asp	Gly	Asn	Arg	Met	Ile	Ile	Glu	Asn	Lys	Gln	Gly	Glu	Ile	Leu	Asn
705					710					715					720
Gln	Val	Asp	Ile	Glu	Asp	Arg	Asn	Glu	Ala	Arg	Asp	Asp	Glu	Val	Ser
				725					730					735	
Val	Asp	Ser	Thr	Ala	His	Ser	Ser	Leu	Thr	Thr	Thr	Met	Thr	Asn	Leu
			740					745					750		
Ser	Ser	Ser	Ser	Gly	Gly	Arg	Leu	Lys	Arg	Ile	Leu	Thr	Pro	Thr	Ser
		755				760						765			
Leu	Gly	Lys	Ile	His	Ser	Leu	Val	Asp	Lys	Gly	Lys	Asp	Lys	Asn	Lys
	770					775				780					
Asn	Ser	Lys	Tyr	His	Ala	Phe	Lys	Ile	Asp	Asn	Leu	Leu	Ile	Ile	Glu
785					790					795					800
Asn	Glu	Asp	Gly	Asp	Val	Ile	Lys	Arg	Tyr	Lys	Ile	Asn	Pro	His	Lys
				805					810					815	
Ser	Asp	Asp	Asp	Lys	Ser	Lys	Asn	Arg	Pro	Arg	Asn	Asp	Ser	Val	Val
			820					825					830		
Ser	Arg	Ala	Leu	Thr	Ala	Val	Gly	Leu	Lys	Ser	Lys	Ala	Asn	Ser	Gly
		835					840					845			
Val	Pro	Pro	Pro	Val	Asp	Glu	Glu	Lys	Ala	Ile	Glu	Gly	Pro	Ser	Arg
	850					855					860				
Lys	Gly	Pro	Gly	Met	Leu	Lys	Lys	Arg	Thr	Leu	Thr	Pro	Ala	Pro	Pro
865					870					875					880
Arg	Gly	Val	Gln	Asp	Ser	Leu	Asp	Leu	Glu	Asp	Glu	Pro	Ser	Ser	Glu
				885					890					895	
Glu	Asp	Leu	Gly	Asp	Ser	Tyr	Asn	Met	Asp	Asp	Ser	Glu	Asp	Tyr	Asp
			900					905					910		
Asp	Asn	Ala	Tyr	Glu	Ser	Glu	Thr	Glu	Phe	Glu	Arg	Gln	Arg	Arg	Leu
		915					920					925			
Asn	Ala	Leu	Gly	Glu	Met	Thr	Ala	Pro	Ala	Asp	Gln	Asp	Asp	Glu	Glu
					930		935				940				
Leu	Pro	Pro	Leu	Pro	Val	Glu	Ala	Gln	Thr	Gly	Asn	Asp	Gly	Pro	Gly
945					950					955					960
Thr	Ala	Glu	Gly	Lys	Lys	Lys	Gln	Lys	Ser	Ala	Ala	Val	Lys	Ser	Ala
				965					970					975	
Leu	Ser	Lys	Thr	Leu	Gly	Leu	Asn	Lys							
			980					985							

<210> 12

<211> 633

<212> PRT

<213> *Saccharomyces cerevisiae*

Met 1	Leu	Ser	Lys	Val 5	Leu	Leu	Asn	Ile	Ala 10	Phe	Lys	Val	Leu	Leu 15	Thr
Thr	Ala	Lys	Arg	Ala 20	Val	Asp	Pro	Asp	Asp	Asp	Asp	Glu	Leu	Leu	Pro
Ser	Pro	Asp	Leu	Pro 35	Gly	Ser	Asp	Asp	Pro	Ile	Ala	Gly	Asp	Pro	Asp
Val	Asp	Leu	Asn	Pro 50	Val	Thr	Glu	Glu	Met	Phe	Ser	Ser	Trp	Ala	Leu
Phe 65	Ile	Met	Leu	Leu 70	Leu	Leu	Ile	Ser	Ala	Leu	Trp	Ser	Ser	Tyr	Tyr
Leu	Thr	Gln	Lys	Arg 85	Ile	Arg	Ala	Val	His	Glu	Thr	Val	Leu	Ser	Ile
Phe	Tyr	Gly	Met	Val 100	Ile	Gly	Leu	Ile	Ile	Arg	Met	Ser	Pro	Gly	His
Tyr	Ile	Gln	Asp	Thr 115	Val	Thr	Phe	Asn	Ser	Ser	Tyr	Phe	Phe	Asn	Val
Leu	Leu	Pro	Pro	Ile 130	Ile	Leu	Asn	Ser	Gly	Tyr	Glu	Leu	Asn	Gln	Val
Asn 145	Phe	Phe	Asn	Asn 150	Met	Leu	Ser	Ile	Leu	Ile	Phe	Ala	Ile	Pro	Gly
Thr	Phe	Ile	Ser	Ala 165	Val	Val	Ile	Gly	Ile	Ile	Leu	Tyr	Ile	Trp	Thr
Phe	Leu	Gly	Leu	Glu 180	Ser	Ile	Asp	Ile	Ser	Phe	Ala	Asp	Ala	Met	Ser
Val	Gly	Ala	Thr	Leu 195	Ser	Ala	Thr	Asp	Pro	Val	Thr	Ile	Leu	Ser	Ile
Phe	Asn	Ala	Tyr	Lys 210	Val	Asp	Pro	Lys	Leu	Tyr	Thr	Ile	Ile	Phe	Gly
Glu 225	Ser	Leu	Leu	Asn 230	Asp	Ala	Ile	Ser	Ile	Val	Met	Phe	Glu	Thr	Cys
Gln	Lys	Phe	His	Gly 245	Gln	Pro	Ala	Thr	Phe	Ser	Ser	Val	Phe	Glu	Gly
Ala	Gly	Leu	Phe	Leu 260	Met	Thr	Phe	Ser	Val	Ser	Leu	Leu	Ile	Gly	Val
Leu	Ile	Gly	Ile	Leu 275	Val	Ala	Leu	Leu	Leu	Lys	His	Thr	His	Ile	Arg
Arg	Tyr	Pro	Gln	Ile 290	Glu	Ser	Cys	Leu	Ile	Leu	Leu	Ile	Ala	Tyr	Glu
Ser 305	Tyr	Phe	Phe	Ser 310	Asn	Gly	Cys	His	Met	Ser	Gly	Ile	Val	Ser	Leu
Leu	Phe	Cys	Gly	Ile 325	Thr	Leu	Lys	His	Tyr	Ala	Tyr	Tyr	Asn	Met	Ser
Arg	Arg	Ser	Gln	Ile 340	Thr	Ile	Lys	Tyr	Ile	Phe	Gln	Leu	Leu	Ala	Arg
Leu	Ser	Glu	Asn	Phe 355	Ile	Phe	Ile	Tyr	Leu	Gly	Leu	Glu	Leu	Phe	Thr
Glu	Val	Glu	Leu	Val 370	Tyr	Lys	Pro	Leu	Leu	Ile	Ile	Val	Ala	Ala	Ile
Ser 385	Ile	Cys	Val	Ala 390	Arg	Trp	Cys	Ala	Val	Phe	Pro	Leu	Ser	Gln	Phe
Val	Asn	Trp	Ile	Tyr 405	Arg	Val	Lys	Thr	Ile	Arg	Ser	Met	Ser	Gly	Ile
Thr	Gly	Glu	Asn	Ile 420	Ser	Val	Pro	Asp	Glu	Ile	Pro	Tyr	Asn	Tyr	Gln
Met	Met	Thr	Phe	Trp 435	Ala	Gly	Leu	Arg	Gly	Ala	Val	Gly	Val	Ala	Leu

Ala Leu Gly Ile Gln Gly Glu Tyr Lys Phe Thr Leu Leu Ala Thr Val
 450 455 460
 Leu Val Val Val Val Leu Thr Val Ile Ile Phe Gly Gly Thr Thr Ala
 465 470 475 480
 Gly Met Leu Glu Val Leu Asn Ile Lys Thr Gly Cys Ile Ser Glu Glu
 485 490 495
 Asp Thr Ser Asp Asp Glu Phe Asp Ile Glu Ala Pro Arg Ala Ile Asn
 500 505 510
 Leu Leu Asn Gly Ser Ser Ile Gln Thr Asp Leu Gly Pro Tyr Ser Asp
 515 520 525
 Asn Asn Ser Pro Asp Ile Ser Ile Asp Gln Phe Ala Val Ser Ser Asn
 530 535 540
 Lys Asn Leu Pro Asn Asn Ile Ser Thr Thr Gly Gly Asn Thr Phe Gly
 545 550 555 560
 Gly Leu Asn Glu Thr Glu Asn Thr Ser Pro Asn Pro Ala Arg Ser Ser
 565 570 575
 Met Asp Lys Arg Asn Leu Arg Asp Lys Leu Gly Thr Ile Phe Asn Ser
 580 585 590
 Asp Ser Gln Trp Phe Gln Asn Phe Asp Glu Gln Val Leu Lys Pro Val
 595 600 605
 Phe Leu Asp Asn Val Ser Pro Ser Leu Gln Asp Ser Ala Thr Gln Ser
 610 615 620
 Pro Ala Asp Phe Ser Ser Gln Asn His
 625 630

<210> 13

<211> 546

<212> PRT

<213> Arabidopsis thaliana

<400> 13

Met Thr Met Phe Ala Ser Leu Thr Ser Lys Met Leu Ser Val Ser Thr
 1 5 10 15
 Ser Asp His Ala Ser Val Val Ser Leu Asn Leu Phe Val Ala Leu Leu
 20 25 30
 Cys Ala Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp Met
 35 40 45
 Asn Glu Ser Ile Thr Ala Leu Ile Gly Leu Gly Thr Gly Val Val
 50 55 60
 Ile Leu Leu Ile Ser Arg Gly Lys Asn Ser His Leu Leu Val Phe Ser
 65 70 75 80
 Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala
 85 90 95
 Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Val Thr Ile
 100 105 110
 Met Ala Phe Gly Ala Ile Gly Thr Val Val Ser Cys Thr Ile Ile Ser
 115 120 125
 Leu Gly Ala Ile Gln Phe Phe Lys Lys Leu Asp Ile Gly Thr Phe Asp
 130 135 140
 Leu Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp Ser
 145 150 155 160
 Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr
 165 170 175
 Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val
 180 185 190
 Leu Phe Asn Ala Ile Gln Ser Phe Asp Leu Thr His Leu Asn His Glu

195	200	205
Ala Ala Phe Gln Phe Leu Gly Asn Phe Phe Tyr Leu Phe Leu Leu Ser		
210	215	220
Thr Gly Leu Gly Val Ala Thr Gly Leu Ile Ser Ala Tyr Val Ile Lys		
225	230	235
Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu Met		240
	245	250
Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ala Leu		255
	260	265
Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr		270
	275	280
Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His Ala		285
	290	295
Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu Tyr Val		300
305	310	315
Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Phe Val Ser Asp Ser		320
	325	330
Pro Gly Thr Ser Val Ala Val Ser Ser Ile Leu Met Gly Leu Val Met		335
	340	345
Leu Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu		350
	355	360
Ala Lys Lys His Gln Ser Glu Lys Ile Ser Ile Lys Gln Gln Val Val		365
	370	375
Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu Ala		380
385	390	395
Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Glu Leu Arg Gly Asn Ala		400
	405	410
Ile Met Ile Thr Ser Thr Ile Thr Val Cys Leu Phe Ser Thr Met Val		415
	420	425
Phe Gly Met Leu Thr Lys Pro Leu Ile Arg Tyr Leu Met Pro His Gln		430
	435	440
Lys Ala Thr Thr Ser Thr Thr Ser Met Leu Ser Asp Asp Ser Thr Pro		445
	450	455
Lys Ser Ile His Ile Pro Leu Leu Asp Gly Glu Gln Leu Asp Ser Phe		460
465	470	475
Glu Leu Pro Gly Ser His Gln Asp Val Pro Arg Pro Asn Ser Leu Arg		480
	485	490
Gly Phe Leu Met Arg Pro Thr Arg Thr Val His Tyr Tyr Trp Arg Gln		495
	500	505
Phe Asp Asp Ala Phe Met Arg Pro Val Phe Gly Gly Arg Gly Phe Val		510
	515	520
Pro Phe Val Pro Gly Ser Pro Thr Glu Arg Ser Ser His Asp Leu Ser		525
	530	535
Lys Pro		540
545		

<210> 14
 <211> 529
 <212> PRT
 <213> Arabidopsis thaliana

<400> 14
 Met Ser Ile Gly Leu Thr Glu Phe Val Thr Asn Lys Leu Ala Ala Glu
 1 5 10 15
 His Pro Gln Val Ile Pro Ile Ser Val Phe Ile Ala Ile Leu Cys Leu
 20 25 30

Cys Leu Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp Val Asn Glu
35 40 45
Ser Ile Thr Ala Ile Leu Val Gly Ala Ala Ser Gly Thr Val Ile Leu
50 55 60
Leu Ile Ser Lys Gly Lys Ser Ser His Ile Leu Val Phe Asp Glu Glu
65 70 75 80
Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly Phe
85 90 95
Gln Val Lys Lys Lys Lys Phe Phe His Asn Phe Leu Thr Ile Met Ser
100 105 110
Phe Gly Val Ile Gly Val Phe Ile Ser Thr Val Ile Ile Ser Phe Gly
115 120 125
Thr Trp Trp Leu Phe Pro Lys Leu Gly Phe Lys Gly Leu Ser Ala Arg
130 135 140
Asp Tyr Leu Ala Ile Gly Thr Ile Phe Ser Ser Thr Asp Thr Val Cys
145 150 155 160
Thr Leu Gln Ile Leu His Gln Asp Glu Thr Pro Leu Leu Tyr Ser Leu
165 170 175
Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Leu Phe
180 185 190
Asn Ala Val Gln Lys Ile Gln Phe Glu Ser Leu Thr Gly Trp Thr Ala
195 200 205
Leu Gln Val Phe Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser Thr Leu
210 215 220
Leu Gly Ile Gly Val Gly Leu Ile Thr Ser Phe Val Leu Lys Thr Leu
225 230 235 240
Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met Val Leu
245 250 255
Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ser Leu Ser Gly
260 265 270
Ile Leu Thr Val Phe Phe Cys Gly Val Leu Met Ser His Tyr Ala Ser
275 280 285
Tyr Asn Val Thr Glu Ser Ser Arg Ile Thr Ser Arg His Val Phe Ala
290 295 300
Met Leu Ser Phe Ile Ala Glu Thr Phe Ile Phe Leu Tyr Val Gly Thr
305 310 315 320
Asp Ala Leu Asp Phe Thr Lys Trp Lys Thr Ser Ser Leu Ser Phe Gly
325 330 335
Gly Thr Leu Gly Val Ser Gly Val Ile Thr Ala Leu Val Leu Leu Gly
340 345 350
Arg Ala Ala Phe Val Phe Pro Leu Ser Val Leu Thr Asn Phe Met Asn
355 360 365
Arg His Thr Glu Arg Asn Glu Ser Ile Thr Phe Lys His Gln Val Ile
370 375 380
Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
385 390 395 400
Phe Lys Gln Phe Thr Tyr Ser Gly Val Thr Leu Asp Pro Val Asn Ala
405 410 415
Ala Met Val Thr Asn Thr Thr Ile Val Val Leu Phe Thr Thr Leu Val
420 425 430
Phe Gly Phe Leu Thr Lys Pro Leu Val Asn Tyr Leu Leu Pro Gln Asp
435 440 445
Ala Ser His Asn Thr Gly Asn Arg Gly Lys Arg Thr Glu Pro Gly Ser
450 455 460
Pro Lys Glu Asp Ala Thr Leu Pro Leu Leu Ser Phe Asp Glu Ser Ala
465 470 475 480
Ser Thr Asn Phe Asn Arg Ala Lys Asp Ser Ile Ser Leu Leu Met Glu

				485					490					495			
Gln	Pro	Val	Tyr	Thr	Ile	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Thr		
			500					505					510				
Tyr	Met	Arg	Pro	Ile	Phe	Gly	Gly	Pro	Arg	Arg	Glu	Asn	Gln	Pro	Glu		
		515					520					525					
Cys																	

<210> 15
 <211> 552
 <212> PRT
 <213> Arabidopsis thaliana

<400> 15

Met	Val	Ile	Gly	Leu	Ser	Thr	Met	Leu	Glu	Lys	Thr	Glu	Ala	Leu	Phe		
1				5					10					15			
Ala	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Met	Asn	Leu	Phe	Val	Ala	Leu		
			20					25					30				
Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Thr	Arg	Trp		
		35					40					45					
Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Ser	Cys	Thr	Gly	Ile		
	50					55					60						
Val	Ile	Leu	Leu	Ile	Ser	Gly	Gly	Lys	Ser	Ser	Arg	Ile	Leu	Val	Phe		
65					70				75					80			
Ser	Glu	Asp	Leu	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn			
				85				90					95				
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr		
			100					105					110				
Ile	Met	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile		
	115						120					125					
Ser	Phe	Gly	Ala	Lys	His	Leu	Phe	Glu	Lys	Met	Asn	Ile	Gly	Asp	Leu		
	130					135					140						
Thr	Ile	Ala	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp		
145					150					155					160		
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu	Leu		
				165				170						175			
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val		
		180						185					190				
Val	Leu	Phe	Asn	Ala	Ile	Gln	Arg	Phe	Asp	Leu	Thr	Asn	Ile	Asn	Ser		
	195					200						205					
Ala	Ile	Ala	Leu	Glu	Phe	Ala	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Ile	Leu		
	210					215					220						
Ser	Thr	Ala	Leu	Gly	Val	Ala	Ala	Gly	Leu	Leu	Ser	Ala	Phe	Val	Ile		
225					230					235					240		
Lys	Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu		
				245				250						255			
Met	Met	Leu	Leu	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	His		
		260				265						270					
Leu	Ser	Ser	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His		
		275				280					285						
Tyr	Thr	Trp	His	Asn	Val	Thr	Asp	Lys	Ser	Lys	Val	Thr	Thr	Lys	His		
	290				295					300							
Thr	Phe	Ala	Ala	Met	Ser	Phe	Leu	Ala	Glu	Ile	Phe	Ile	Phe	Leu	Tyr		
305				310					315						320		
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Asp	Val	Val	Arg	Asn		
				325				330						335			

Ser Pro Gly Gln Ser Ile Gly Val Ser Ser Ile Leu Leu Gly Leu Ile
 340 345 350
 Leu Leu Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Thr Lys Ser Ser Pro Asp Glu Lys Ile Asp Leu Lys Lys Gln Val
 370 375 380
 Thr Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu
 385 390 395 400
 Ala Tyr Asn Gln Phe Thr Thr Ser Gly His Thr Lys Val Leu Gly Asn
 405 410 415
 Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Val
 420 425 430
 Val Phe Gly Leu Leu Thr Lys Pro Leu Val Lys His Leu Gln Pro Ser
 435 440 445
 Ser Lys Gln Ser Ser Thr Thr Ala Leu Gln Ile Thr Leu Arg Ser Ser
 450 455 460
 Phe His Asp Pro Ile Leu His Glu Pro Leu Leu Ser Thr Gln Gly Gln
 465 470 475 480
 Ser Glu Tyr Asp Pro Glu Gln His Val Ser Phe Arg Met Phe Trp Lys
 485 490 495
 Ser Pro Ser Arg Ala Ile His His Tyr Trp Arg Lys Phe Asp Asn Ala
 500 505 510
 Val Met Arg Arg Ile Phe Gly Gly Arg Gly Val Ser Pro Val Val Pro
 515 520 525
 Gly Ser Pro Ile Glu Asn Ser Val Pro Gln Trp Ser Glu Glu Val Glu
 530 535 540
 Asn Lys Glu Gln Asn Gly Glu Pro
 545 550

<210> 16
 <211> 487
 <212> PRT
 <213> Arabidopsis thaliana

<400> 16
 Met Glu Glu Val Met Ile Ser Pro Val Glu His Asp Pro Gln Gly Gln
 1 5 10 15
 Val Lys Gln Gln Gln Ala Ala Gly Val Gly Ile Leu Leu Gln Ile Met
 20 25 30
 Met Leu Val Leu Ser Phe Val Leu Gly His Val Leu Arg Arg His Arg
 35 40 45
 Phe His Tyr Leu Pro Glu Ala Ser Gly Leu Ile Val Gly Ile Leu Ala
 50 55 60
 Asn Ile Ser Asp Thr Glu Thr Ser Ile Arg Phe Cys Pro Pro Pro Ser
 65 70 75 80
 Ile Pro Glu Phe Ser Leu Leu Ser Phe Pro Arg Ser Leu Lys Pro Phe
 85 90 95
 Phe Ser Asn Phe Gly Ala Ile Val Thr Phe Ala Ile Ile Gly Thr Phe
 100 105 110
 Val Ala Ser Val Val Thr Gly Gly Leu Val Tyr Leu Gly Gly Ser Met
 115 120 125
 Tyr Leu Met Tyr Lys Leu Pro Phe Val Glu Cys Leu Met Phe Gly Ala
 130 135 140
 Leu Ile Ser Ala Thr Asp Pro Val Thr Val Leu Ser Ile Phe Gln Asp
 145 150 155 160
 Val Gly Thr Asp Val Asn Leu Tyr Ala Leu Val Phe Gly Glu Ser Val

				165					170					175			
Leu	Asn	Asp	Ala	Val	Ser	Phe	Tyr	Tyr	Leu	Leu	Arg	Tyr	Trp	Ala	Leu		
			180						185				190				
Pro	Phe	Lys	Phe	Phe	Glu	Thr	Phe	Ala	Gly	Ser	Met	Ser	Ala	Glu	His		
		195						200				205					
Leu	Phe	Lys	Tyr	Ala	Gly	Leu	Asp	Thr	Glu	Asn	Leu	Gln	Asn	Leu	Glu		
	210					215					220						
Cys	Cys	Leu	Phe	Val	Leu	Phe	Pro	Tyr	Phe	Ser	Tyr	Met	Leu	Ala	Glu		
225					230					235					240		
Gly	Val	Gly	Leu	Ser	Gly	Ile	Val	Ser	Ile	Leu	Phe	Thr	Gly	Ile	Val		
				245					250				255				
Met	Lys	Arg	Tyr	Thr	Phe	Ser	Asn	Leu	Ser	Glu	Ala	Ser	Gln	Ser	Phe		
			260					265					270				
Val	Ser	Ser	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Thr		
	275						280					285					
Phe	Ile	Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Gln	His	Ser	Trp	Ser		
	290					295					300						
His	Val	Gly	Phe	Ile	Leu	Phe	Ser	Ile	Val	Ser	Ser	Phe	Thr	Asp	Arg		
305					310					315					320		
Gln	Ala	Val	Asn	Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu	Phe	Arg		
			325					330					335				
Gln	Glu	Asn	Gln	Lys	Ile	Pro	Met	Lys	His	Gln	Lys	Ala	Leu	Trp	Tyr		
	340						345					350					
Ser	Gly	Leu	Arg	Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln	Ser	Leu		
	355					360					365						
His	Asp	Leu	Pro	Glu	Gly	His	Gly	Gln	Ile	Ile	Phe	Thr	Ala	Thr	Thr		
	370				375					380							
Thr	Ile	Val	Val	Val	Thr	Val	Leu	Leu	Ile	Gly	Gly	Ser	Thr	Gly	Lys		
385				390					395						400		
Met	Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Asp	Leu	Asp	Asp	Ser	Met		
			405					410					415				
Ser	Glu	Gly	Phe	Glu	Glu	Ser	Asp	His	Gln	Tyr	Val	Pro	Pro	Pro	Phe		
	420						425					430					
Ser	Ile	Gly	Ala	Ser	Ser	Asp	Glu	Asp	Thr	Ser	Ser	Ser	Gly	Ser	Arg		
	435					440					445						
Phe	Lys	Met	Lys	Leu	Lys	Glu	Phe	His	Lys	Thr	Thr	Thr	Ser	Phe	Thr		
	450				455					460							
Ala	Leu	Asp	Lys	Asn	Phe	Leu	Thr	Pro	Phe	Phe	Thr	Thr	Asn	Ser	Gly		
465				470					475						480		
Asp	Gly	Asp	Gly	Asp	Gly	Glu											
				485													

<210> 17
 <211> 531
 <212> PRT
 <213> Arabidopsis thaliana

<400> 17
 Met Ser Ser Glu Leu Gln Ile Ser Pro Ala Ile His Asp Pro Gln Gly
 1 5 10 15
 Gln Glu Lys Gln Gln Gln Ala Ala Gly Val Gly Ile Leu Leu Gln Ile
 20 25 30
 Met Met Leu Val Leu Ser Phe Val Leu Gly His Val Leu Arg Arg His
 35 40 45
 Lys Phe Tyr Tyr Leu Pro Glu Ala Ser Ala Ser Leu Leu Ile Gly Leu
 50 55 60

Ile	Val	Gly	Gly	Leu	Ala	Asn	Ile	Ser	Asn	Thr	Glu	Thr	Ser	Ile	Arg	65	70	75	80
Phe	Val	Glu	Leu	Phe	Leu	Ile	Ser	Phe	Phe	Arg	His	Gly	Ser	Ile	Ser	85	90	95	
Thr	Met	Ser	Ser	Ser	Phe	Cys	Phe	Cys	Cys	Leu	Pro	Ser	Tyr	Tyr	Ile	100	105	110	
Leu	Lys	Ile	Glu	Tyr	Leu	Gly	Gly	Val	Met	Phe	Leu	Met	Tyr	Arg	Leu	115	120	125	
Pro	Phe	Val	Glu	Cys	Leu	Met	Phe	Gly	Ser	Leu	Ile	Ser	Ala	Thr	Asp	130	135	140	
Pro	Val	Thr	Val	Leu	Ser	Ile	Phe	Gln	Glu	Leu	Gly	Ser	Asp	Val	Asn	145	150	155	160
Leu	Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn	Asp	Ala	Asp	Glu	165	170	175	
Ile	Val	Thr	Leu	Leu	Ile	Arg	Ser	Phe	Ser	Phe	Leu	Cys	Cys	Phe	Trp	180	185	190	
Gln	Met	Ala	Ile	Ser	Leu	Tyr	Arg	Thr	Met	Ser	Leu	Val	Arg	Ser	His	195	200	205	
Ser	Ser	Gly	Gln	Asn	Phe	Phe	Met	Val	Ile	Val	Arg	Phe	Leu	Glu	Thr	210	215	220	
Phe	Val	Gly	Ser	Met	Ser	Ala	Ala	Met	Lys	Tyr	Phe	Ile	Leu	Met	Tyr	225	230	235	240
Ser	Leu	Leu	Leu	Ser	Val	Tyr	Arg	Thr	Trp	Ser	Ala	Val	Ser	Ser	Tyr	245	250	255	
Phe	Phe	His	Ile	Ser	Arg	Asn	Lys	Thr	Leu	Leu	Phe	Tyr	Thr	Ser	Tyr	260	265	270	
Val	Ser	Ile	Tyr	Phe	Thr	Leu	Ile	Glu	Ile	Val	Gln	Phe	Val	Met	Lys	275	280	285	
His	Tyr	Thr	Tyr	Ser	Asn	Leu	Ser	Ala	Asn	Ser	Gln	Arg	Phe	Val	Ser	290	295	300	
Ala	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Val	Phe	Ile	305	310	315	320
Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Lys	His	Ser	Trp	Ala	Ala	Asn	325	330	335	
Val	Phe	Gly	Cys	Gly	Tyr	Leu	Val	Asn	Leu	Ala	Arg	Pro	Ala	His	Arg	340	345	350	
Lys	Ile	Pro	Met	Thr	His	Gln	Lys	Ala	Leu	Trp	Tyr	Ser	Gly	Lys	Ile	355	360	365	
Leu	Leu	Cys	Val	Pro	Leu	Ser	Ser	Tyr	Cys	Phe	Tyr	Ser	Ser	Val	Ile	370	375	380	
Asn	Thr	Lys	Ile	Cys	Gly	Phe	Cys	Ile	Gly	Leu	Arg	Gly	Ala	Met	Ala	385	390	395	400
Phe	Ala	Leu	Ala	Leu	Gln	Ser	Val	His	Asp	Leu	Pro	Glu	Gly	His	Gly	405	410	415	
Gln	Thr	Ile	Phe	Thr	Ala	Thr	Thr	Ala	Ile	Val	Val	Leu	Thr	Val	Leu	420	425	430	
Leu	Ile	Gly	Gly	Ser	Thr	Gly	Thr	Met	Leu	Glu	Ala	Leu	Glu	Val	Val	435	440	445	
Gly	Asp	Ser	His	Asp	Thr	Ser	Leu	Gly	Asp	Gly	Phe	Glu	Val	Val	Asn	450	455	460	
Ser	Arg	Tyr	Met	Thr	Ser	Tyr	Asp	Asp	Glu	Asp	Thr	Pro	Pro	Gly	Ser	465	470	475	480
Gly	Phe	Arg	Thr	Lys	Leu	Arg	Glu	Phe	His	Lys	Ser	Ala	Ala	Ser	Phe	485	490	495	
Thr	Glu	Leu	Asp	Arg	Asn	Tyr	Leu	Thr	Pro	Phe	Phe	Thr	Ser	Asn	Asn	500	505	510	
Gly	Asp	Tyr	Asp	Asp	Glu	Gly	Asn	Met	Glu	Gln	His	His	Gly	Asn	Asn				

515
Ile Ile Leu
530

520

525

<210> 18
<211> 697
<212> PRT
<213> Arabidopsis thaliana

<400> 18

Met	Thr	Ser	Ile	Ile	Gly	Ala	Ala	Leu	Pro	Tyr	Lys	Ser	Pro	Glu	Lys
1			5					10					15		
Ala	Ile	Ala	Ser	Ser	Ser	Tyr	Ser	Ala	Glu	Asn	Asp	Ser	Ser	Pro	Val
		20					25					30			
Asp	Ala	Val	Ile	Phe	Ala	Gly	Thr	Ser	Leu	Val	Leu	Gly	Thr	Ala	Cys
	35				40						45				
Arg	Tyr	Leu	Phe	Asn	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Val	Leu	Leu
	50				55					60					
Val	Ile	Gly	Ile	Phe	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Thr	Lys	His	Asn
65				70					75					80	
Leu	Gly	Lys	Leu	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Gly	Ile	Asn	Pro
			85					90					95		
Asp	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Val	Leu	Leu	Phe	Glu	Ser	Ser
	100						105					110			
Phe	Ser	Met	Asp	Val	His	Gln	Ile	Lys	Arg	Cys	Met	Gly	Gln	Met	Val
	115					120						125			
Leu	Leu	Ala	Gly	Pro	Gly	Val	Leu	Ile	Ser	Thr	Phe	Cys	Leu	Gly	Ala
	130				135						140				
Leu	Ile	Lys	Leu	Thr	Phe	Pro	Tyr	Asn	Trp	Asp	Trp	Lys	Thr	Ser	Leu
145				150						155					160
Leu	Leu	Gly	Gly	Leu	Leu	Gly	Ala	Thr	Asp	Pro	Val	Ala	Val	Val	Ala
			165					170					175		
Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Met	Thr	Thr	Leu	Ile	Asp
		180						185					190		
Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Val	Ser	Val	Val	Val	Phe	Gln	Leu
	195					200						205			
Phe	Phe	Lys	Met	Val	Met	Gly	His	Asn	Ser	Asp	Trp	Gly	Ser	Ile	Ile
	210					215					220				
Lys	Phe	Leu	Val	Gln	Asn	Ser	Phe	Gly	Ala	Val	Gly	Ile	Gly	Leu	Ala
225				230						235					240
Phe	Gly	Ile	Ala	Ser	Val	Phe	Trp	Leu	Lys	Phe	Ile	Phe	Asn	Asp	Thr
			245						250					255	
Val	Ala	Gln	Ile	Thr	Val	Thr	Leu	Ser	Ala	Ser	Tyr	Phe	Ala	Tyr	Tyr
		260						265					270		
Thr	Ala	Gln	Glu	Trp	Ala	Gly	Val	Ser	Gly	Ile	Leu	Thr	Val	Met	Ile
	275					280						285			
Leu	Gly	Met	Phe	Phe	Ala	Ala	Phe	Ala	Arg	Thr	Ala	Phe	Lys	Gly	Asp
	290				295						300				
Ser	His	Gln	Ser	Leu	His	His	Phe	Trp	Tyr	Phe	Thr	Thr	Gln	Glu	Met
305				310						315					320
Ala	Ala	Tyr	Ile	Ala	Asn	Thr	Leu	Val	Phe	Met	Leu	Ser	Gly	Val	Ile
			325						330					335	
Ile	Ala	Glu	Ser	Val	Leu	Ser	Gly	Gln	Thr	Ile	Ser	Tyr	Lys	Ala	Ile
		340						345					350		
Lys	Trp	Lys	Phe	Ile	Ser	Gln	Phe	Arg	Tyr	Gly	Asn	Lys	Ala	Val	Leu
	355						360						365		

Gln	Phe	Leu	Phe	Leu	Thr	Gly	Gly	Ile	Val	Phe	Leu	Thr	Leu	Val	Val
370						375				380					
Asn	Gly	Ser	Thr	Thr	Gln	Leu	Leu	Leu	His	Leu	Leu	Arg	Met	Asp	Thr
385					390					395					400
Leu	Thr	Ala	Thr	Lys	Lys	Arg	Ile	Leu	Glu	Tyr	Thr	Lys	Phe	Glu	Met
				405					410					415	
Met	Lys	Thr	Ala	Leu	Lys	Ala	Phe	Glu	Asn	Leu	Gly	Asp	Asp	Glu	Glu
			420					425					430		
Leu	Gly	Ser	Ala	Asp	Trp	Pro	Thr	Val	Ile	Arg	His	Ile	Ser	Ser	Leu
		435					440					445			
Lys	Asp	Leu	Glu	Gly	Arg	Gln	Val	Asn	Pro	His	Asp	Gly	Tyr	Glu	Ala
450						455					460				
Gly	Ser	Leu	Asp	Pro	Thr	Asn	Ile	Met	Asp	Ile	Arg	Val	Gln	Ala	Ala
465					470					475					480
Tyr	Trp	Glu	Met	Leu	Asp	Asp	Gly	Arg	Ile	Thr	Gln	Cys	Thr	Ala	Asn
				485					490					495	
Val	Leu	Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Leu	Val	Ser	Thr	Ser
			500					505					510		
Ser	Leu	Ser	Asp	Trp	Arg	Gly	Leu	Glu	Pro	Arg	Val	His	Phe	Pro	Asn
		515					520					525			
Tyr	Tyr	Lys	Phe	Leu	Gln	Ser	Lys	Ile	Ile	Pro	His	Lys	Leu	Val	Thr
530					535						540				
His	Leu	Ile	Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ser	Ala
545					550					555					560
Phe	Leu	Arg	Ala	His	Arg	Ile	Ala	Arg	Gln	Leu	His	Ile	Phe	Leu	
				565					570					575	
Gly	Asn	Ser	Asn	Ile	Ala	Ser	Thr	Val	Ile	Asn	Glu	Ser	Glu	Val	Glu
			580					585					590		
Gly	Glu	Glu	Ala	Lys	Gln	Phe	Leu	Glu	Asp	Val	Arg	Asp	Ser	Phe	Pro
		595					600					605			
Gln	Val	Leu	Ser	Val	Leu	Lys	Thr	Arg	Gln	Val	Thr	His	Tyr	Val	Leu
610						615					620				
Asn	His	Leu	Asn	Gly	Tyr	Ile	Lys	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu
625				630						635					640
Glu	Gly	Lys	Glu	Val	Ser	His	Leu	His	Asp	Val	Val	Gln	Ser	Asp	Leu
				645					650					655	
Lys	Lys	Leu	Leu	Arg	His	Pro	Pro	Ser	Leu	Lys	Leu	Pro	Asn	Val	Asp
			660					665					670		
Asp	Leu	Ile	Thr	Ser	Asn	Pro	Leu	Leu	Lys	Asp	Arg	Ser	Ser	Phe	Arg
		675					680					685			
Ser	Leu	Ala	Ile	Gly	Glu	Thr	Asp	Ala							
690						695									

<210> 19

<211> 697

<212> PRT

<213> Arabidopsis thaliana

<400> 19

Met	Thr	Ser	Ile	Ile	Gly	Ala	Ala	Leu	Pro	Tyr	Lys	Ser	Pro	Glu	Lys
1				5				10						15	
Ala	Ile	Ala	Ser	Ser	Ser	Tyr	Ser	Ala	Glu	Asn	Asp	Ser	Ser	Pro	Val
			20					25					30		
Asp	Ala	Val	Ile	Phe	Ala	Gly	Thr	Ser	Leu	Val	Leu	Gly	Thr	Ala	Cys
		35				40						45			
Arg	Tyr	Leu	Phe	Asn	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Val	Leu	Leu

50	55	60													
Val	Ile	Gly	Ile	Phe	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Thr	Lys	His	Asn
65					70					75					80
Leu	Gly	Lys	Leu	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Gly	Ile	Asn	Pro
				85					90					95	
Asp	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Val	Leu	Leu	Phe	Glu	Ser	Ser
			100					105					110		
Phe	Ser	Met	Asp	Val	His	Gln	Ile	Lys	Arg	Cys	Met	Gly	Gln	Met	Val
	115						120					125			
Leu	Leu	Ala	Gly	Pro	Gly	Val	Leu	Ile	Ser	Thr	Phe	Cys	Leu	Gly	Ala
	130					135					140				
Leu	Ile	Lys	Leu	Thr	Phe	Pro	Tyr	Asn	Trp	Asp	Trp	Lys	Thr	Ser	Leu
145					150					155					160
Leu	Leu	Gly	Gly	Leu	Leu	Gly	Ala	Thr	Asp	Pro	Val	Ala	Val	Val	Ala
			165						170					175	
Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Met	Thr	Thr	Leu	Ile	Asp
	180						185					190			
Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Val	Ser	Val	Val	Val	Phe	Gln	Leu
	195						200					205			
Phe	Phe	Lys	Met	Val	Met	Gly	His	Asn	Ser	Asp	Trp	Gly	Ser	Ile	Ile
	210					215					220				
Lys	Phe	Leu	Val	Gln	Asn	Ser	Phe	Gly	Ala	Val	Gly	Ile	Gly	Leu	Ala
225				230						235					240
Phe	Gly	Ile	Ala	Ser	Val	Phe	Trp	Leu	Lys	Phe	Ile	Phe	Asn	Asp	Thr
			245						250					255	
Val	Ala	Gln	Ile	Thr	Val	Thr	Leu	Ser	Ala	Ser	Tyr	Phe	Ala	Tyr	Tyr
	260						265					270			
Thr	Ala	Gln	Glu	Trp	Ala	Gly	Val	Ser	Gly	Ile	Leu	Thr	Val	Met	Ile
	275					280						285			
Leu	Gly	Met	Phe	Phe	Ala	Ala	Phe	Ala	Arg	Thr	Ala	Phe	Lys	Gly	Asp
	290				295					300					
Ser	His	Gln	Ser	Leu	His	His	Phe	Trp	Tyr	Phe	Thr	Thr	Gln	Glu	Met
305				310					315						320
Ala	Ala	Tyr	Ile	Ala	Asn	Thr	Leu	Val	Phe	Met	Leu	Ser	Gly	Val	Ile
			325						330					335	
Ile	Ala	Glu	Ser	Val	Leu	Ser	Gly	Gln	Thr	Ile	Ser	Tyr	Lys	Ala	Ile
	340						345						350		
Lys	Trp	Lys	Phe	Ile	Ser	Gln	Phe	Arg	Tyr	Gly	Asn	Lys	Ala	Val	Leu
	355					360					365				
Gln	Phe	Leu	Phe	Leu	Thr	Gly	Gly	Ile	Val	Phe	Leu	Thr	Leu	Val	Val
	370				375					380					
Asn	Gly	Ser	Thr	Thr	Gln	Leu	Leu	Leu	His	Leu	Leu	Arg	Met	Asp	Thr
385					390				395						400
Leu	Thr	Ala	Thr	Lys	Lys	Arg	Ile	Leu	Glu	Tyr	Thr	Lys	Phe	Glu	Met
			405						410					415	
Met	Lys	Thr	Ala	Leu	Lys	Ala	Phe	Glu	Asn	Leu	Gly	Asp	Asp	Glu	Glu
	420						425					430			
Leu	Gly	Ser	Ala	Asp	Trp	Pro	Thr	Val	Ile	Arg	His	Ile	Ser	Ser	Leu
	435					440						445			
Lys	Asp	Leu	Glu	Gly	Arg	Gln	Val	Asn	Pro	His	Asp	Gly	Tyr	Glu	Ala
	450					455					460				
Gly	Ser	Leu	Asp	Pro	Thr	Asn	Ile	Met	Asp	Ile	Arg	Val	Gln	Ala	Ala
465				470					475						480
Tyr	Trp	Glu	Met	Leu	Asp	Asp	Gly	Arg	Ile	Thr	Gln	Cys	Thr	Ala	Asn
			485					490						495	
Val	Leu	Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Leu	Val	Ser	Thr	Ser
			500					505					510		

Ser	Leu	Ser	Asp	Trp	Arg	Gly	Leu	Glu	Pro	Arg	Val	His	Phe	Pro	Asn
		515					520					525			
Tyr	Tyr	Lys	Phe	Leu	Gln	Ser	Lys	Ile	Ile	Pro	His	Lys	Leu	Val	Thr
		530					535					540			
His	Leu	Ile	Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ser	Ala
545					550					555					560
Phe	Leu	Arg	Ala	His	Arg	Ile	Ala	Arg	Gln	Gln	Leu	His	Ile	Phe	Leu
				565					570						575
Gly	Asn	Ser	Asn	Ile	Ala	Ser	Thr	Val	Ile	Asn	Glu	Ser	Glu	Val	Glu
			580					585						590	
Gly	Glu	Glu	Ala	Lys	Gln	Phe	Leu	Glu	Asp	Val	Arg	Asp	Ser	Phe	Pro
		595					600					605			
Gln	Val	Leu	Ser	Val	Leu	Lys	Thr	Arg	Gln	Val	Thr	His	Tyr	Val	Leu
		610				615					620				
Asn	His	Leu	Asn	Gly	Tyr	Ile	Lys	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu
625					630					635					640
Glu	Gly	Lys	Glu	Val	Ser	His	Leu	His	Asp	Val	Val	Gln	Ser	Asp	Leu
				645					650					655	
Lys	Lys	Leu	Leu	Arg	His	Pro	Pro	Ser	Leu	Lys	Leu	Pro	Asn	Val	Asp
			660					665					670		
Asp	Leu	Ile	Thr	Ser	Asn	Pro	Leu	Leu	Lys	Asp	Arg	Ser	Ser	Phe	Arg
		675					680					685			
Ser	Leu	Ala	Ile	Gly	Glu	Thr	Asp	Ala							
		690					695								

<210> 20

<211> 534

<212> PRT

<213> Lycopersicon esculentum

<400> 20

Met	Gly	Leu	Asp	Ala	Val	Ala	Arg	Leu	Gly	Val	Ser	Ile	Leu	Ser	Asp
1				5					10					15	
Gly	Asp	Gln	Val	Ser	Val	Asp	Ser	Ile	Thr	Leu	Phe	Val	Ala	Leu	Leu
		20						25					30		
Cys	Gly	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Ser	Arg	Trp	Ile
		35				40						45			
Asn	Asp	Ser	Ile	Thr	Thr	Leu	Val	Ile	Gly	Leu	Ser	Thr	Gly	Gly	Ile
	50					55					60				
Ile	Leu	Leu	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Leu	Leu	Glu	Phe	Asp
65					70					75					80
Glu	Gln	Leu	Phe	Phe	Ile	Tyr	Val	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala
				85					90					95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Val	Thr	Ile
			100					105					110		
Met	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Ser	Ile	Ile	Ser
		115					120					125			
Phe	Gly	Ala	Lys	Glu	Leu	Leu	Gly	Lys	Leu	Asp	Ile	Gly	Phe	Leu	Glu
		130					135				140				
Leu	Arg	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser
145					150					155					160
Val	Cys	Thr	Leu	Gln	Ala	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Arg	Leu	Tyr
			165						170					175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val
		180						185					190		
Leu	Phe	Asn	Ala	Ile	Gln	Lys	Leu	Asp	Leu	Ser	His	Ile	Asn	Ser	Arg

	195					200				205					
Ala	Ala	Leu	Val	Phe	Thr	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Leu	Ala	Ser
	210					215					220				
Thr	Phe	Leu	Gly	Val	Leu	Ile	Gly	Leu	Leu	Ser	Ala	Tyr	Leu	Ile	Lys
225					230					235					240
Lys	Ile	Tyr	Leu	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu	Met
			245						250					255	
Ile	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Val	Met	Ala	Glu	Leu	Phe	Asp	Leu
		260						265					270		
Ser	Gly	Ile	Leu	Thr	Val	Phe	Ile	Cys	Gly	Ile	Val	Met	Ser	His	Tyr
	275						280				285				
Thr	Trp	His	Asn	Val	Thr	Phe	Asn	Ser	Lys	Val	Thr	Thr	Arg	His	Ala
	290					295					300				
Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Ile	Phe	Ile	Phe	Leu	Tyr	Val
305					310					315					320
Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Phe	Val	Lys	Asp	Ser
			325					330					335		
Pro	Gly	Lys	Ser	Val	Gly	Val	Ser	Ala	Ala	Leu	Leu	Gly	Leu	Val	Leu
		340						345				350			
Val	Gly	Arg	Ala	Cys	Phe	Val	Phe	Pro	Leu	Ser	Leu	Phe	Ser	Asn	Cys
	355						360					365			
Leu	Lys	Arg	Ser	Glu	His	Asp	Lys	Phe	Gly	Leu	Lys	Leu	Gln	Val	Thr
	370					375					380				
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ser	Val	Ser	Met	Ala	Leu	Ala
385					390					395					400
Tyr	Asn	Gln	Phe	Thr	Arg	Phe	Gly	His	Thr	Gln	Gln	Pro	Gly	Asn	Ala
			405					410					415		
Val	Met	Ile	Thr	Ser	Thr	Ile	Thr	Ile	Val	Leu	Phe	Ser	Thr	Val	Val
		420						425					430		
Phe	Gly	Leu	Ile	Thr	Lys	Pro	Leu	Val	Arg	Phe	Leu	Leu	Pro	Ser	Ser
	435						440					445			
Gln	Gly	Phe	Asn	Asn	Leu	Ile	Ser	Ser	Glu	Gln	Ser	Phe	Ala	Arg	Pro
	450					455				460					
Leu	Leu	Thr	Asn	Glu	Gln	Glu	Leu	Glu	Leu	Glu	Met	Gly	Asn	Val	Asp
465				470				475						480	
Pro	Val	Arg	Pro	Ser	Gly	Leu	Ser	Ile	Leu	Leu	Lys	Glu	Pro	Ser	Tyr
			485					490					495		
Thr	Ile	His	Asn	His	Trp	Arg	Arg	Phe	Asp	Asp	Ala	Phe	Met	Arg	Pro
		500						505				510			
Leu	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Asp	Ala	Pro	Glu	Leu	Ser	Lys
	515					520					525				
Gly	Gly	Cys	Asp	Gln	Tyr										
	530														

<210> 21

<211> 531

<212> PRT

<213> Lycopersicon esculentum

<400> 21

Met	Glu	Asp	His	Leu	Gln	Ile	Ser	Pro	Ala	Gly	Ala	Lys	Ala	Ile	Pro
1				5					10					15	
Gly	Lys	Glu	Gln	Gln	Ala	Ala	Gly	Tyr	Gly	Ile	Leu	Leu	Gln	Ile	Met
		20					25						30		
Met	Leu	Val	Leu	Ser	Phe	Val	Ile	Gly	His	Val	Leu	Arg	Arg	Arg	His
	35						40					45			

Phe	Tyr	Tyr	Ile	Pro	Glu	Ala	Ser	Ala	Ser	Leu	Leu	Ile	Gly	Leu	Ile
50						55					60				
Val	Gly	Gly	Leu	Ala	Asn	Val	Ser	Asp	Thr	Glu	Thr	Ser	Ile	Arg	Ala
65					70					75					80
Trp	Phe	Asn	Phe	His	Glu	Glu	Phe	Phe	Phe	Leu	Phe	Leu	Leu	Pro	Pro
				85					90					95	
Ile	Ile	Phe	Gln	Ser	Gly	Phe	Ser	Leu	Ser	Pro	Lys	Pro	Phe	Phe	Ser
			100					105					110		
Asn	Phe	Gly	Ala	Ile	Ile	Thr	Phe	Ala	Ile	Leu	Gly	Thr	Phe	Ile	Ala
		115						120				125			
Ser	Phe	Val	Thr	Gly	Ile	Leu	Val	Tyr	Leu	Gly	Gly	Val	Thr	Tyr	Leu
	130					135					140				
Met	Tyr	Arg	Leu	Pro	Phe	Val	Glu	Cys	Leu	Met	Phe	Gly	Ala	Leu	Ile
145					150					155					160
Ser	Ala	Thr	Asp	Pro	Val	Thr	Val	Leu	Ser	Ile	Phe	Gln	Glu	Leu	Gly
			165						170					175	
Thr	Asp	Val	Asn	Leu	Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn
			180						185					190	
Asp	Ala	Met	Ala	Ile	Ser	Leu	Tyr	Arg	Thr	Met	Ser	Leu	Val	Arg	Ser
		195					200					205			
His	Met	Ser	Thr	Asp	Gln	Asn	Tyr	Phe	Met	Ile	Thr	Ile	Arg	Phe	Val
	210					215					220				
Glu	Thr	Phe	Met	Gly	Ser	Leu	Ser	Ala	Gly	Val	Gly	Val	Gly	Phe	Val
225					230					235					240
Ser	Ala	Leu	Leu	Phe	Lys	Tyr	Ala	Gly	Leu	Asp	Ile	Asp	Asn	Leu	Gln
				245					250					255	
Asn	Leu	Glu	Ser	Cys	Leu	Phe	Val	Leu	Phe	Pro	Tyr	Phe	Ser	Tyr	Met
			260					265					270		
Leu	Ala	Glu	Gly	Leu	Gly	Leu	Ser	Gly	Ile	Val	Ser	Ile	Leu	Phe	Thr
		275					280					285			
Gly	Val	Val	Met	Lys	Arg	Tyr	Thr	Tyr	Pro	Asn	Leu	Ser	Glu	Ser	Ser
	290					295					300				
Gln	Arg	Phe	Val	Ser	Ala	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu
305					310					315					320
Thr	Phe	Val	Phe	Ile	Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Lys	His
				325					330					335	
Ser	Trp	Ser	His	Val	Gly	Phe	Ile	Phe	Phe	Ser	Ile	Leu	Phe	Ile	Val
			340					345					350		
Ile	Ala	Arg	Ala	Ala	Asn	Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu
		355					360					365			
Val	Arg	Pro	Pro	His	Gln	Lys	Ile	Pro	Ala	Lys	His	Gln	Lys	Ala	Leu
	370					375					380				
Trp	Tyr	Ser	Gly	Leu	Arg	Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln
385					390					395					400
Pro	Val	His	Asp	Leu	Pro	Glu	Gly	His	Gly	Gln	Ala	Ile	Phe	Thr	Ala
				405					410					415	
Thr	Thr	Ala	Ile	Val	Val	Leu	Thr	Val	Leu	Ile	Ile	Gly	Gly	Ser	Ala
			420					425					430		
Gly	Thr	Met	Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Gly	Gln	Ser	Gly
		435					440					445			
Ser	Met	Asp	Glu	Thr	Phe	Glu	Gly	Asn	Asn	Gly	Tyr	Ile	Ala	Pro	Ser
	450					455					460				
Tyr	Arg	Asp	Glu	Ser	Tyr	Asp	Gly	Glu	Pro	Ser	Ser	Gly	Asn	Arg	Phe
465					470					475					480
Arg	Met	Lys	Leu	Lys	Glu	Phe	His	Lys	Ser	Thr	Thr	Ser	Phe	Ser	Ala
				485					490					495	
Leu	Asp	Lys	Asn	Tyr	Leu	Thr	Pro	Phe	Phe	Thr	Thr	Gln	Gly	Gly	Asp

		500						505						510	
Glu	Asp	Glu	Asp	Glu	Pro	Ile	Met	His	Ser	Ser	Arg	Arg	Ala	Gly	Tyr
		515					520					525			
Asp	Gly	His													
		530													

<210> 22
 <211> 535
 <212> PRT
 <213> Oryza sativa

<400> 22

Met	Gly	Met	Glu	Val	Ala	Ala	Ala	Arg	Leu	Gly	Ala	Leu	Tyr	Thr	Thr
1				5					10					15	
Ser	Asp	Tyr	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val	Ala	Leu	Leu
			20					25					30		
Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Val
		35					40					45			
Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly	Val	Val
		50				55					60				
Ile	Leu	Leu	Met	Thr	Lys	Gly	Lys	Ser	Ser	His	Leu	Phe	Val	Phe	Ser
65					70					75					80
Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala
			85						90					95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr	Ile
			100					105					110		
Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr	Ile	Ser
		115					120					125			
Ile	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Arg	Met	Asn	Ile	Gly	Thr	Leu	Asp
	130					135					140				
Val	Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser
145					150					155					160
Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Phe	Leu	Tyr
			165						170					175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Ile	Val
		180						185					190		
Leu	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Leu	Val	His	Ile	Asp	Ala	Ala
		195					200					205			
Val	Val	Leu	Lys	Phe	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu	Ser	Ser
	210					215					220				
Thr	Phe	Leu	Gly	Val	Phe	Ala	Gly	Leu	Leu	Ser	Ala	Tyr	Ile	Ile	Lys
225					230					235					240
Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu	Met
			245						250					255	
Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Leu	Asp	Leu
		260						265				270			
Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr
		275					280					285			
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His	Ala
	290					295					300				
Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val
305					310					315					320
Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Glu	Phe	Ala	Ser	Asp	Arg
			325						330					335	
Pro	Gly	Lys	Ser	Ile	Gly	Ile	Ser	Ser	Ile	Leu	Leu	Gly	Leu	Val	Leu
		340						345					350		

Ile Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu
 355 360 365
 Thr Lys Lys Ala Pro Asn Glu Lys Ile Thr Trp Arg Gln Gln Val Val
 370 375 380
 Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
 385 390 395 400
 Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala
 405 410 415
 Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val
 420 425 430
 Phe Gly Met Met Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro Ala Ser
 435 440 445
 Gly His Pro Val Thr Ser Glu Pro Ser Ser Pro Lys Ser Leu His Ser
 450 455 460
 Pro Leu Leu Thr Ser Met Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
 465 470 475 480
 Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Thr Lys Pro Thr His
 485 490 495
 Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
 500 505 510
 Met Phe Gly Gly Arg Gly Phe Val Pro Phe Ser Pro Gly Ser Pro Thr
 515 520 525
 Glu Gln Ser His Gly Gly Arg
 530 535

<210> 23

<211> 553

<212> PRT

<213> Nierembergia caerulea

<400> 23

Met Ala Phe Asp Phe Gly Thr Leu Leu Gly Lys Met Asn Asn Leu Thr
 1 5 10 15
 Thr Ser Asp His Gln Ser Val Val Ser Val Asn Leu Phe Val Ala Leu
 20 25 30
 Ile Cys Ala Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp
 35 40 45
 Met Asn Glu Ser Ile Thr Ala Leu Val Ile Gly Ser Cys Thr Gly Val
 50 55 60
 Ile Ile Leu Leu Ile Ser Gly Gly Lys Asn Ser His Ile Leu Val Phe
 65 70 75 80
 Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn
 85 90 95
 Ala Gly Phe Gln Val Lys Lys Lys Ser Phe Phe Arg Asn Phe Ser Thr
 100 105 110
 Ile Met Leu Phe Gly Ala Val Gly Thr Leu Ile Ser Phe Ile Ile Ile
 115 120 125
 Ser Ala Gly Ala Ile Gly Ile Phe Lys Lys Met Asp Ile Gly His Leu
 130 135 140
 Glu Ile Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp
 145 150 155 160
 Ser Val Cys Thr Leu Gln Val Leu Asn Gln Glu Glu Thr Pro Leu Leu
 165 170 175
 Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val
 180 185 190
 Val Leu Phe Asn Ala Val Gln Asn Phe Asp Leu Ser His Ile Ser Thr

Pro	Cys	Ala	Ser	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Ser	Arg	Trp
		35					40					45			
Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Leu	Ile	Gly	Val	Cys	Ala	Gly	Val
	50					55					60				
Ile	Ile	Leu	Leu	Thr	Thr	Gly	Gly	Lys	Ser	Ser	His	Leu	Phe	Val	Phe
65				70					75					80	
Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Val	Leu	Pro	Pro	Ile	Ile	Phe	Asn
			85					90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr
			100					105					110		
Ile	Met	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Val	Ser	Cys	Thr	Ile	Ile
	115						120					125			
Ser	Leu	Gly	Val	Ile	Gln	Phe	Phe	Lys	Lys	Leu	Asp	Ile	Gly	Thr	Leu
	130					135					140				
Asp	Ile	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr	Asp
145				150						155				160	
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Asp	Thr	Pro	Leu	Leu
			165					170						175	
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val
			180					185					190		
Val	Leu	Phe	Asn	Ala	Ile	Gln	Ser	Phe	Asp	Leu	Thr	His	Ile	Asn	Thr
	195						200					205			
Arg	Ser	Ala	Phe	Gln	Phe	Ile	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Phe	Thr
	210					215					220				
Ser	Thr	Leu	Leu	Gly	Val	Ile	Gly	Gly	Leu	Leu	Ser	Ala	Tyr	Val	Ile
225				230						235				240	
Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile
			245					250						255	
Met	Val	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	Tyr
		260						265				270			
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His
	275						280					285			
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His
	290					295					300				
Thr	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Ile	Phe	Thr	Phe	Leu	Tyr
305				310						315				320	
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Phe	Val	Lys	Gly
			325						330					335	
Ser	Pro	Gly	Thr	Ser	Val	Ala	Ala	Ser	Ala	Met	Leu	Met	Gly	Leu	Ile
		340						345				350			
Met	Ala	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Thr	Asn
	355					360						365			
Leu	Ala	Lys	Lys	Ser	Pro	Thr	Glu	Lys	Ile	Ser	Ile	Lys	Gln	Gln	Val
	370					375					380				
Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala	Leu
385				390						395				400	
Ala	Tyr	Asn	Gln	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	Arg	Glu	Asn
			405						410					415	
Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr	Val
			420					425				430			
Val	Phe	Gly	Leu	Met	Thr	Glu	Pro	Leu	Ile	Arg	Leu	Leu	Leu	Pro	His
	435						440				445				
Pro	Lys	His	Thr	Thr	Asn	His	Ile	Leu	Ser	Asp	Pro	Ser	Thr	Pro	Lys
	450				455					460					
Ser	Leu	Ser	Gln	Pro	Leu	Glu	Glu	Gly	Gln	Gln	Asp	Ser	Tyr	Ala	
465				470					475					480	
Asp	Leu	Val	Gly	Pro	Thr	Val	Pro	Arg	Pro	Gly	Ser	Leu	Arg	Ala	Leu

				485					490					495			
Leu	Thr	Thr	Pro	Thr	His	Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp		
			500					505					510				
Asp	Ala	Phe	Met	Arg	Pro	Val	Phe	Gly	Gly	Arg	Gly	Phe	Ala	Pro	Phe		
		515					520					525					
Val	Pro	Gly	Ser	Pro	Thr	Glu	Arg	Ser	Val	Arg	Gly	Gly	Gln				
	530					535					540						

<210> 25

<211> 546

<212> PRT

<213> Triticum aestivum

<400> 25

Met	Gly	Leu	Asp	Leu	Gly	Ala	Leu	Ala	Leu	Lys	Tyr	Thr	Gly	Leu	Ala		
1				5				10						15			
Val	Ser	Asp	His	Asp	Ser	Ile	Val	Ala	Ile	Asn	Ile	Phe	Ile	Ala	Leu		
			20					25					30				
Leu	Cys	Gly	Cys	Ile	Val	Phe	Gly	His	Leu	Leu	Glu	Gly	Asn	Arg	Trp		
		35					40					45					
Val	Asn	Glu	Ser	Thr	Thr	Ala	Leu	Val	Leu	Gly	Leu	Ile	Thr	Gly	Gly		
	50					55					60						
Val	Ile	Leu	Ile	Cys	Thr	Lys	Gly	Val	Asn	Ser	Arg	Ile	Leu	Ile	Phe		
65				70					75						80		
Ser	Glu	Asp	Ile	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn		
			85					90					95				
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ala	Thr		
			100					105					110				
Ile	Ile	Leu	Phe	Gly	Ala	Ala	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile		
	115						120					125					
Thr	Phe	Gly	Ala	Met	Gly	Leu	Phe	Ser	Lys	Leu	Asp	Val	Gly	Pro	Leu		
	130					135					140						
Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp		
145				150						155					160		
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Ala	Pro	Leu	Leu		
			165					170					175				
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val		
		180						185					190				
Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	Ile	Asp	Ile	Asn	His	Phe	Asp	Val		
	195					200					205						
Phe	Val	Leu	Leu	Gln	Phe	Ile	Gly	Lys	Phe	Leu	Tyr	Leu	Phe	Phe	Thr		
	210					215					220						
Ser	Thr	Val	Leu	Gly	Val	Ala	Ala	Gly	Leu	Leu	Ser	Ala	Tyr	Ile	Ile		
225				230						235					240		
Lys	Lys	Leu	Cys	Phe	Ala	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile		
			245					250						255			
Met	Ile	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ser	Met	Leu	Leu	Asp		
		260						265					270				
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His		
		275				280						285					
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His		
	290					295					300						
Thr	Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Ile	Phe	Leu	Phe	Leu	Tyr		
305				310						315					320		
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Lys	Leu	Ala	Ser	Ser		
				325				330						335			

Ser Pro Lys Lys Pro Ile Ala Leu Ser Ala Val Ile Leu Gly Leu Val
 340 345 350
 Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Ser Lys Lys Glu Ser His Pro Lys Ile Ser Phe Asn Gln Gln Val
 370 375 380
 Ile Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu
 385 390 395 400
 Ala Tyr Asn Lys Phe Thr Thr Ser Gly His Thr Ala Val Arg Val Asn
 405 410 415
 Ala Val Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met
 420 425 430
 Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro Pro
 435 440 445
 Arg Pro Gly Thr Ala Ala Asp Ile Ser Ser Gln Ser Phe Leu Asp Pro
 450 455 460
 Leu Thr Ala Ser Leu Leu Gly Ser Asp Phe Asp Val Gly Gln Leu Thr
 465 470 475 480
 Pro Gln Thr Asn Leu Gln Tyr Leu Leu Thr Met Pro Thr Arg Ser Val
 485 490 495
 His Arg Val Trp Arg Lys Phe Asp Asp Lys Phe Met Arg Pro Met Phe
 500 505 510
 Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Ile Glu Arg
 515 520 525
 Ser Val His Gly Pro Gly Leu Leu Gly Thr Val Thr Glu Ala Glu Asp
 530 535 540
 Arg Ser
 545

<210> 26
 <211> 538
 <212> PRT
 <213> Triticum aestivum

<400> 26
 Met Gly Tyr Gln Val Val Ala Ala Gln Leu Ala Arg Leu Ser Gly Ala
 1 5 10 15
 Leu Gly Thr Ser Asp His Ala Ser Val Val Ser Ile Thr Leu Phe Val
 20 25 30
 Ala Leu Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn
 35 40 45
 Arg Trp Leu Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr
 50 55 60
 Gly Val Val Ile Leu Met Thr Thr Lys Gly Lys Ser Ser His Val Leu
 65 70 75 80
 Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile
 85 90 95
 Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe
 100 105 110
 Met Ala Ile Thr Leu Phe Gly Ala Val Gly Thr Met Met Ser Phe Phe
 115 120 125
 Thr Ile Ser Leu Ala Ala Ile Ala Ile Phe Ser Arg Met Asn Ile Gly
 130 135 140
 Thr Leu Asp Val Ser Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala
 145 150 155 160
 Thr Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro

Val	Ser	Asp	His	Asp	Ser	Ile	Val	Ala	Ile	Asn	Ile	Phe	Ile	Ala	Leu	20	25	30
Leu	Cys	Gly	Cys	Ile	Val	Phe	Gly	His	Leu	Leu	Gly	Gly	Asn	Arg	Trp	35	40	45
Val	Asn	Glu	Ser	Thr	Ala	Ala	Leu	Val	Leu	Gly	Leu	Ile	Thr	Gly	Gly	50	55	60
Val	Ile	Leu	Ile	Cys	Thr	Lys	Gly	Val	Asn	Ser	Arg	Ile	Leu	Ile	Phe	65	70	75
Ser	Glu	Asp	Ile	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	85	90	95
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ala	Thr	100	105	110
Ile	Ile	Leu	Phe	Gly	Ala	Ala	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile	115	120	125
Thr	Phe	Gly	Ala	Met	Gly	Leu	Phe	Ser	Lys	Leu	Asp	Val	Gly	Pro	Leu	130	135	140
Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	145	150	155
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Ala	Pro	Leu	Leu	165	170	175
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	180	185	190
Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	Ile	Asp	Ile	Asn	His	Phe	Asp	Val	195	200	205
Phe	Gly	Leu	Leu	Gln	Phe	Ile	Gly	Lys	Phe	Leu	Tyr	Leu	Phe	Phe	Thr	210	215	220
Ser	Thr	Val	Leu	Gly	Val	Ala	Ala	Gly	Leu	Leu	Ser	Ala	Tyr	Ile	Ile	225	230	235
Lys	Lys	Leu	Cys	Phe	Ala	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile	245	250	255
Met	Ile	Leu	Met	Ala	Tyr	Leu	Ser	Cys	Met	Leu	Ser	Met	Leu	Leu	Asp	260	265	270
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His	275	280	285
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His	290	295	300
Thr	Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Ile	Phe	Leu	Phe	Leu	Tyr	305	310	315
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Lys	Leu	Ala	Ser	Ser	325	330	335
Ser	Pro	Lys	Lys	Pro	Ile	Ala	Leu	Ser	Ala	Val	Ile	Leu	Gly	Leu	Val	340	345	350
Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	355	360	365
Leu	Ser	Lys	Lys	Glu	Ser	His	Pro	Lys	Ile	Ser	Phe	Asn	Gln	Gln	Val	370	375	380
Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	385	390	395
Ala	Tyr	Asn	Lys	Phe	Thr	Thr	Ser	Gly	His	Thr	Ala	Val	Arg	Val	Asn	405	410	415
Ala	Val	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr	Met	420	425	430
Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro	Pro	435	440	445
Arg	Pro	Gly	Thr	Ala	Ala	Asp	Ile	Ser	Ser	Gln	Ser	Phe	Leu	Asp	Pro	450	455	460
Leu	Thr	Ala	Ser	Leu	Leu	Gly	Ser	Asp	Phe	Asp	Val	Gly	Gln	Leu	Thr			

465					470					475				480	
Pro	Gln	Thr	Asn	Leu	Gln	Tyr	Leu	Leu	Thr	Met	Pro	Thr	Arg	Ser	Ala
				485					490					495	
His	Arg	Val	Trp	Arg	Lys	Phe	Asp	Asp	Lys	Phe	Met	Arg	Pro	Met	Phe
			500					505					510		
Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Ile	Glu	Arg
		515					520					525			
Ser	Val	His	Gly	Pro	Gly	Leu	Leu	Gly	Thr	Val	Thr	Glu	Ala	Glu	Asp
	530					535					540				
Arg	Ser														
545															

<210> 28
 <211> 540
 <212> PRT
 <213> Zea mays

<400> 28

Met	Gly	Leu	Gly	Val	Val	Ala	Glu	Leu	Val	Arg	Leu	Gly	Val	Leu	Ser
1				5					10				15		
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val	Ala
			20					25				30			
Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Val	Asn	Glu	Ser	Thr	Ala	Leu	Ile	Val	Gly	Leu	Gly	Thr	Gly	Thr
	50					55				60					
Val	Ile	Leu	Met	Ile	Ser	Arg	Gly	Val	Val	Ile	His	Val	Leu	Val	Phe
65					70					75					80
Ser	Glu	Asp	Leu	Phe	Phe	Phe	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn
				85				90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr
			100					105				110			
Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Thr	Val	Ile
	115						120					125			
Ser	Leu	Gly	Ala	Leu	Gly	Leu	Ile	Ser	Arg	Leu	Asn	Ile	Gly	Ala	Leu
	130					135				140					
Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp
145					150					155					160
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Phe	Leu
			165					170						175	
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val
			180					185						190	
Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His	Ile	Asp	Ala
		195					200					205			
Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu	Leu
	210					215					220				
Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val	Ile
225					230					235					240
Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu
				245					250					255	
Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	Ala
			260					265					270		
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val	Met	Ser	His
		275					280					285			
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Thr	Lys	His
	290					295					300				

Ala	Phe	Ala	Thr	Leu	Ser	Phe	Leu	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr
305					310					315					320
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Arg	Ser	Val	Ser	Asp
				325					330					335	
Thr	Pro	Gly	Lys	Ser	Leu	Ala	Ile	Ser	Ser	Ile	Leu	Met	Gly	Leu	Val
			340					345					350		
Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn
		355				360						365			
Leu	Ala	Lys	Lys	Thr	Glu	His	Glu	Lys	Ile	Ser	Trp	Lys	Gln	Gln	Val
370					375						380				
Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala	Leu
385				390					395						400
Ala	Tyr	Lys	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly	Asn
				405					410					415	
Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr	Met
			420					425					430		
Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro	His
	435					440						445			
Arg	Asn	Ala	Thr	Ser	Met	Leu	Ser	Asp	Asp	Ser	Ser	Pro	Lys	Ser	Leu
	450					455					460				
His	Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Asp	Leu	Glu	Glu	Pro
465					470				475						480
Thr	Asn	Ile	Pro	Arg	Pro	Ser	Ser	Ile	Arg	Gly	Glu	Phe	Leu	Thr	Met
			485					490						495	
Thr	Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Phe	Met
			500					505					510		
Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser
		515				520						525			
Pro	Thr	Glu	Arg	Asn	Pro	Pro	Asp	Leu	Ser	Lys	Ala				
	530					535					540				

<210> 29
 <211> 540
 <212> PRT
 <213> Zea mays

<400> 29

Met	Gly	Leu	Gly	Val	Asp	Ala	Glu	Thr	Val	Arg	Leu	Gly	Val	Leu	Ser
1				5					10					15	
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Asn	Asn	Phe	Phe	Val	Ala
			20					25					30		
Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Met	Val	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Leu	Val	Gly	Leu	Gly	Thr	Gly
	50					55					60				
Thr	Val	Ile	Leu	Met	Ile	Ser	Arg	Gly	Val	Ser	Ile	His	Val	Leu	Val
65					70					75					80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
				85				90					95		
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile
		100						105				110			
Thr	Ile	Ile	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile
	115						120					125			
Ile	Ser	Leu	Gly	Ala	Met	Gly	Leu	Phe	Lys	Lys	Leu	Asp	Val	Gly	Pro
	130					135					140				
Leu	Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr

145					150				155				160		
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu
				165					170					175	
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
			180					185					190		
Ile	Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His	Ile	Asn
		195					200					205			
Ala	Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Leu
	210					215						220			
Leu	Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val
225					230					235					240
Ile	Lys	Lys	Ile	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala
			245						250				255		
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
			260					265					270		
Ala	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val	Met	Ser
	275						280					285			
His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Thr	Lys
	290					295					300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Leu	Ala	Glu	Thr	Phe	Ile	Phe	Leu
305					310					315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Ser	Val	Ser
			325					330					335		
Asp	Thr	Pro	Gly	Lys	Ser	Ile	Ala	Ile	Ser	Ser	Ile	Leu	Met	Gly	Leu
			340					345					350		
Val	Met	Leu	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser
	355						360					365			
Asn	Leu	Ala	Lys	Lys	Asn	Glu	His	Glu	Lys	Ile	Ser	Trp	Lys	Gln	Gln
	370					375					380				
Val	Val	Ile	Trp	Trp	Ser	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala
385					390					395					400
Leu	Ala	Tyr	Asn	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Glu	Val	Arg	Gly
			405						410					415	
Asn	Glu	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr
			420					425					430		
Val	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu	Met	Pro
	435						440					445			
His	Arg	His	Leu	Thr	Met	Leu	Ser	Asp	Asp	Ser	Thr	Pro	Lys	Ser	Leu
	450					455					460				
His	Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Ser	Ile	Glu	Glu	Pro
465					470					475					480
Thr	Gln	Ile	Pro	Arg	Pro	Thr	Asn	Ile	Arg	Gly	Glu	Phe	Thr	Thr	Met
				485					490					495	
Thr	Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Lys	Phe	Met
			500					505					510		
Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser
	515						520					525			
Pro	Thr	Glu	Arg	Asn	Pro	His	Asp	Leu	Ser	Lys	Pro				
	530					535					540				

<210> 30
 <211> 539
 <212> PRT
 <213> Zea mays

<400> 30

Met	Ser	Ile	Gly	Leu	Thr	Ala	Glu	Thr	Val	Thr	Asn	Lys	Leu	Ala	Ser	1	5	10	15
Ala	Glu	His	Pro	Gln	Val	Val	Pro	Asn	Ser	Val	Phe	Ile	Ala	Leu	Leu	20	25	30	
Cys	Leu	Cys	Leu	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Val	35	40	45	
Asn	Glu	Ser	Ile	Thr	Ala	Ile	Leu	Val	Gly	Ala	Ala	Thr	Gly	Thr	Val	50	55	60	
Ile	Leu	Leu	Ile	Ser	Lys	Gly	Lys	Ser	Ser	His	Ile	Leu	Val	Phe	Asp	65	70	75	80
Glu	Glu	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	85	90	95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr	Ile	100	105	110	
Ile	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile	Ser	115	120	125	
Leu	Gly	Ala	Met	Gly	Leu	Phe	Lys	Lys	Leu	Asp	Val	Gly	Pro	Leu	Glu	130	135	140	
Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser	145	150	155	160
Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu	Leu	Tyr	165	170	175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	180	185	190	
Leu	Phe	Asn	Ala	Val	Gln	Lys	Ile	Asp	Phe	Glu	His	Leu	Thr	Gly	Glu	195	200	205	
Val	Ala	Leu	Gln	Val	Phe	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser	Thr	Ser	210	215	220	
Thr	Val	Leu	Gly	Ile	Ala	Thr	Gly	Leu	Ile	Thr	Ala	Phe	Val	Leu	Lys	225	230	235	240
Thr	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala	Ile	Met	245	250	255	
Val	Leu	Met	Ala	Tyr	Leu	Ser	Phe	Met	Leu	Ala	Glu	Leu	Phe	Ser	Leu	260	265	270	
Ser	Gly	Ile	Ile	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser	His	Val	275	280	285	
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Ser	Arg	His	Val	290	295	300	
Phe	Ala	Met	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val	305	310	315	320
Gly	Thr	Asp	Ala	Leu	Asp	Phe	Thr	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	325	330	335	
Phe	Gly	Lys	Ser	Leu	Gly	Val	Ser	Ser	Val	Leu	Leu	Gly	Leu	Val	Leu	340	345	350	
Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	355	360	365	
Ser	Lys	Lys	His	Pro	Gly	Glu	Lys	Ile	Thr	Ile	Arg	Gln	Gln	Val	Val	370	375	380	
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	385	390	395	400
Phe	Asn	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly	Asn	Ala	405	410	415	
Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr	Val	Val	420	425	430	
Phe	Gly	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro	His	Arg		435	440	445	
Asn	Ala	Thr	Ser	Met	Leu	Ser	Asp	Asp	Ser	Ser	Pro	Lys	Ser	Leu	His				

450		455		460
Ser Pro Leu Leu Thr	Ser Gln Leu Ile Ser Ser Ile Glu Glu Pro Thr			
465	470	475	480	
Gln Ile Pro Arg Pro Thr Asn Ile Arg Gly Glu Phe Met Thr Met Thr				
	485	490	495	
Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Lys Phe Met Arg				
	500	505	510	
Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro				
	515	520	525	
Thr Glu Arg Ser Ser Pro Asp Leu Ser Lys Ala				
530	535			

<210> 31
 <211> 538
 <212> PRT
 <213> Zea mays

<400> 31

Met Gly Tyr Gln Val Val Ala Ala Gln Leu Lys Leu Ala Ser Ser Ala	
1	5 10 15
Asp His Ala Ser Val Val Ile Ile Thr Leu Phe Val Ala Leu Leu Cys	
	20 25 30
Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Leu Asn	
	35 40 45
Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Gly Thr Gly Val Val Ile	
	50 55 60
Leu Leu Ile Ser Arg Gly Lys Asn Ser Arg Leu Leu Val Phe Ser Glu	
65	70 75 80
Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly	
	85 90 95
Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Met Thr Ile Thr	
	100 105 110
Leu Phe Gly Ala Val Gly Thr Met Ile Ser Phe Phe Thr Ile Ser Leu	
	115 120 125
Gly Ala Ile Ala Thr Phe Ser Arg Met Ser Ile Gly Thr Leu Asp Val	
	130 135 140
Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser Val	
145	150 155 160
Cys Thr Leu Gln Val Leu His Gln Asp Glu Thr Pro Phe Leu Tyr Ser	
	165 170 175
Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Leu	
	180 185 190
Phe Asn Ala Val Gln Lys Ile Gln Phe Thr His Ile Asn Ala Trp Thr	
	195 200 205
Ala Leu Gln Leu Ile Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser Thr	
	210 215 220
Leu Leu Gly Ile Gly Thr Gly Leu Ile Thr Ala Phe Val Leu Lys Lys	
225	230 235 240
Leu Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met Ile	
	245 250 255
Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ser Leu Ser	
	260 265 270
Gly Leu Leu Thr Val Phe Phe Cys Gly Val Leu Met Ser His Val Thr	
	275 280 285
Trp His Asn Val Thr Glu Ser Ser Arg Thr Thr Ser Arg His Val Phe	
290	295 300

Ala	Thr	Leu	Ser	Phe	Ile	Ser	Glu	Thr	Phe	Ile	Phe	Leu	Tyr	Val	Gly
305					310					315					320
Met	Asp	Ala	Leu	Asp	Phe	Glu	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	Phe
				325					330					335	
Gly	Gly	Thr	Leu	Gly	Val	Ser	Gly	Val	Leu	Met	Gly	Leu	Val	Met	Leu
			340					345					350		
Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	Ala
		355					360					365			
Lys	Lys	His	Gln	Ser	Glu	Lys	Ile	Ser	Phe	Arg	Met	Gln	Val	Val	Ile
	370					375				380					
Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala	Leu	Ala	Leu
385					390					395					400
Asn	Lys	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	His	Gly	Asn	Ala	Ile
			405						410					415	
Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr	Met	Val	Phe
			420					425					430		
Gly	Met	Ile	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu	Leu	Pro	Ala	Ser	Gly
		435					440					445			
His	Pro	Arg	Glu	Leu	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser	Phe	His	Ser
	450					455				460					
Pro	Leu	Leu	Thr	Ser	Gln	Gln	Gly	Ser	Asp	Leu	Glu	Ser	Thr	Thr	Asn
465					470				475						480
Ile	Val	Arg	Pro	Ser	Ser	Leu	Arg	Gly	Leu	Leu	Thr	Lys	Pro	Thr	His
			485					490						495	
Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Leu	Met	Arg	Pro
			500					505					510		
Val	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Thr
		515				520						525			
Glu	Arg	Asn	Pro	Pro	Asp	Leu	Ser	Lys	Ala						
	530					535									

<210> 32
 <211> 545
 <212> PRT
 <213> Zea mays

<400> 32															
Met	Ser	Met	Gly	Tyr	Gln	Val	Val	Ala	Ala	Gln	Leu	Lys	Val	Ala	Ser
1				5					10					15	
Ser	Ala	Asp	His	Ala	Ser	Val	Val	Ile	Ile	Thr	Leu	Phe	Val	Ala	Leu
			20					25					30		
Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp
		35					40					45			
Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly	Gly
	50					55					60				
Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu	Val	Phe
65					70				75						80
Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Ile
				85				90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr
			100					105					110		
Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr	Ile
		115					120					125			
Ser	Leu	Gly	Ala	Ile	Ala	Ile	Phe	Ser	Arg	Met	Asn	Ile	Gly	Thr	Leu
	130					135					140				
Asp	Val	Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp

145					150					155				160
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	His	Gln	Asp	Glu	Thr	Pro	Phe
				165					170					175
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
				180					185					190
Val	Leu	Phe	Asn	Ala	Val	Gln	Lys	Ile	Gln	Ile	Thr	His	Ile	Asn
		195					200					205		Ala
Glu	Val	Ala	Leu	Gln	Val	Phe	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser
	210					215					220			Thr
Ser	Thr	Leu	Leu	Gly	Ile	Ala	Thr	Gly	Leu	Ile	Thr	Ser	Phe	Val
225					230					235				Leu
Lys	Lys	Leu	Tyr	Phe	Ala	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala
				245					250					255
Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
			260					265						270
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser
		275					280					285		His
Val	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Ser	Arg
	290					295					300			His
Val	Phe	Ala	Met	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Ile	Phe	Leu
305					310					315				320
Val	Gly	Thr	Asp	Ala	Leu	Asp	Phe	Asp	Lys	Trp	Lys	Thr	Ser	Ser
				325					330					335
Ser	Phe	Gly	Gly	Thr	Leu	Gly	Val	Ser	Ala	Leu	Ile	Met	Ala	Leu
		340					345					350		Val
Leu	Leu	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Val	Leu	Thr
		355				360						365		Asn
Phe	Ser	Asn	Lys	His	Glu	Asn	Glu	Ser	Ile	Thr	Phe	Lys	His	Gln
	370					375					380			Val
Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala
385				390						395				400
Ala	Phe	Lys	Gln	Phe	Thr	Tyr	Ser	Gly	Val	Thr	Leu	Asp	Pro	Val
				405					410					415
Ala	Ala	Met	Val	Thr	Asn	Thr	Thr	Ile	Val	Val	Leu	Phe	Thr	Thr
			420					425				430		Leu
Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu	Met	Pro
	435					440						445		His
Arg	His	Leu	Thr	Met	Leu	Ser	Asp	Asp	Ser	Thr	Pro	Lys	Ser	Leu
	450					455					460			His
Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Asp	Leu	Glu	Glu	Pro
465					470					475				480
Asn	Ile	Pro	Arg	Pro	Ser	Ser	Ile	Arg	Gly	Glu	Phe	Leu	Thr	Met
				485					490					495
Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Phe	Met
			500					505					510	Arg
Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Val	Val	Pro	Gly	Ser
		515					520					525		Pro
Ile	Glu	Arg	Ser	Val	Pro	Gln	Trp	Ser	Glu	Glu	Ala	His	Asn	Lys
	530					535					540			Glu
Pro														
545														

<210> 33
 <211> 541
 <212> PRT
 <213> Zea mays

<400> 33

Met	Gly	Leu	Gly	Val	Val	Ala	Glu	Leu	Val	Arg	Leu	Gly	Val	Leu	Ser
1				5					10					15	
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val	Ala
			20					25					30		
Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Val	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly
	50					55					60				
Val	Val	Ile	Leu	Leu	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Ile	Leu	Val
65					70					75					80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
				85					90					95	
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met
		100						105					110		
Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr
	115					120						125			
Ile	Ser	Leu	Gly	Ala	Leu	Gly	Leu	Ile	Ser	Arg	Leu	Asn	Ile	Gly	Ala
	130					135					140				
Leu	Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu	Gly	Ala	Ile	Phe	Ser	Ala	Thr
145				150						155					160
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Phe
			165						170					175	
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
		180						185					190		
Val	Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His	Ile	Asp
	195						200					205			
Ala	Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu
	210					215					220				
Leu	Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val
225				230						235					240
Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala
			245						250					255	
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
		260						265					270		
Ala	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val	Met	Ser
	275					280						285			
His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Thr	Lys
	290				295						300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Leu	Ala	Glu	Thr	Phe	Leu	Phe	Leu
305				310						315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Arg	Ser	Val	Ser
			325						330					335	
Asp	Thr	Pro	Gly	Lys	Ser	Leu	Ala	Ile	Ser	Ser	Ile	Leu	Met	Gly	Leu
		340						345					350		
Val	Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser
	355					360						365			
Asn	Leu	Ala	Lys	Lys	Thr	Glu	His	Glu	Lys	Ile	Ser	Trp	Lys	Gln	Gln
	370					375					380				
Val	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala
385				390						395					400
Leu	Ala	Tyr	Lys	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly
			405						410					415	
Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr
		420						425					430		
Met	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro

His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys
290						295					300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Thr	Phe	Leu	Phe	Leu
305					310					315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Met	Glu	Lys	Trp	Arg	Phe	Val	Ser
				325					330					335	
Asp	Ser	Pro	Gly	Thr	Ser	Val	Ala	Val	Ser	Ala	Val	Leu	Met	Gly	Leu
			340					345					350		
Val	Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser
		355					360					365			
Asn	Leu	Ala	Lys	Lys	Ser	Thr	Ser	Glu	Lys	Ile	Ser	Phe	Arg	Glu	Gln
370						375					380				
Ile	Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala
385					390					395					400
Leu	Ala	Tyr	Asn	Gln	Phe	Thr	Arg	Gly	Gly	His	Thr	Gln	Leu	Arg	Gly
				405				410						415	
Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Ile	Val	Leu	Phe	Ser	Thr
			420				425					430			
Val	Val	Phe	Gly	Leu	Met	Thr	Lys	Pro	Leu	Ile	Arg	Phe	Leu	Leu	Pro
		435					440					445			
His	Pro	Lys	Pro	Thr	Ala	Ser	Met	Leu	Ser	Asp	Gln	Ser	Thr	Pro	Lys
450						455					460				
Ser	Met	Glu	Ala	Pro	Phe	Leu	Gly	Ser	Gly	Gln	Asp	Ser	Phe	Asp	Asp
465					470					475					480
Ser	Leu	Ile	Gly	Val	His	Arg	Pro	Asn	Ser	Ile	Arg	Ala	Leu	Leu	Thr
				485				490						495	
Thr	Pro	Ala	His	Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asn	Ala
			500					505					510		
Phe	Met	Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro
		515					520					525			
Gly	Ser	Pro	Thr	Glu	Arg	Ser	Glu	Pro	Asn	Leu	Pro	Gln	Trp	Gln	
530						535					540				

<210> 35

<211> 557

<212> PRT

<213> Suaeda maritima

<400> 35

Met	Trp	Ser	Gln	Leu	Ser	Ser	Phe	Phe	Ala	Ser	Lys	Met	Asp	Met	Val
1				5					10					15	
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Met	Asn	Leu	Phe	Val	Ala
			20					25					30		
Leu	Leu	Cys	Gly	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Leu	Ile	Gly	Leu	Ser	Thr	Gly
	50					55					60				
Ile	Ile	Ile	Leu	Leu	Ile	Ser	Gly	Gly	Lys	Ser	Ser	His	Leu	Leu	Val
65					70					75					80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
				85					90					95	
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile
		100						105					110		
Thr	Ile	Ile	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Val	Ser	Phe	Ile	Ile
		115					120					125			
Ile	Ser	Leu	Gly	Ser	Ile	Ala	Ile	Phe	Gln	Lys	Met	Asp	Ile	Gly	Ser

<212> PRT

<213> Hordeum vulgare

<400> 36

Met	Ala	Phe	Glu	Val	Val	Ala	Ala	Gln	Leu	Ala	Arg	Leu	Ser	Asp	Ala
1				5					10					15	
Leu	Ala	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val
			20					25					30		
Ala	Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn
		35					40					45			
Arg	Trp	Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr
	50					55					60				
Gly	Val	Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu
65					70					75					80
Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile
				85					90					95	
Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe
		100						105					110		
Met	Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe
		115					120					125			
Thr	Ile	Ser	Leu	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Lys	Met	Asn	Ile	Gly
	130					135					140				
Thr	Leu	Asp	Val	Ser	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala
145					150					155					160
Thr	Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro
				165					170					175	
Phe	Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr
		180						185					190		
Ser	Val	Val	Leu	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Pro	Asn	Gln	Ile
		195					200					205			
Asp	Ala	Ile	Val	Ile	Leu	Lys	Phe	Leu	Gly	Asn	Phe	Cys	Tyr	Leu	Phe
	210					215					220				
Val	Ser	Ser	Thr	Phe	Leu	Gly	Val	Phe	Ser	Gly	Leu	Leu	Ser	Ala	Tyr
225					230					235					240
Ile	Ile	Lys	Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val
				245					250					255	
Ala	Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu
		260						265					270		
Leu	Asp	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met
	275						280					285			
Ser	His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr
	290					295					300				
Lys	His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe
305					310					315					320
Leu	Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Lys	Phe	Ala
				325					330					335	
Ser	Asp	Ser	Pro	Gly	Lys	Ser	Ile	Gly	Ile	Ser	Ser	Ile	Leu	Leu	Gly
		340						345					350		
Leu	Val	Leu	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu
		355					360					365			
Ser	Asn	Leu	Thr	Lys	Lys	Thr	Glu	Leu	Glu	Lys	Ile	Ser	Trp	Arg	Gln
	370					375					380				
Gln	Ile	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile
385					390					395					400
Ala	Leu	Ala	Tyr	Asn	Lys	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	His
				405					410					415	
Gly	Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser

			420					425				430			
Thr	Met	Leu	Phe	Gly	Ile	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Phe	Leu	Leu
		435						440				445			
Pro	Ala	Ser	Ser	Asn	Gly	Asp	Pro	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser
	450					455					460				
Leu	His	Ser	Pro	Leu	Leu	Thr	Ser	Met	Leu	Gly	Ser	Asp	Met	Glu	Ala
465					470					475				480	
Pro	Leu	Pro	Ile	Val	Arg	Pro	Ser	Ser	Leu	Arg	Met	Leu	Ile	Thr	Lys
			485						490					495	
Pro	Thr	His	Thr	Ile	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Leu
		500						505					510		
Met	Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Tyr	Ser	Pro	Gly
		515					520					525			
Ser	Pro	Thr	Asp	Pro	Asn	Val	Ile	Val	Ala						
	530					535									

<210> 37

<211> 540

<212> PRT

<213> Hordeum brevisubulatum

<400> 37

Met	Gly	Trp	Gly	Leu	Gly	Asp	Pro	Pro	Ala	Asp	Tyr	Gly	Ser	Ile	Met
1				5					10					15	
Ala	Val	Gly	Leu	Phe	Val	Ala	Leu	Met	Cys	Ile	Cys	Ile	Ile	Val	Gly
		20						25					30		
His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Met	Asn	Glu	Ser	Thr	Thr	Ala	Leu
		35					40					45			
Leu	Leu	Gly	Leu	Gly	Ala	Gly	Thr	Val	Ile	Leu	Phe	Ala	Ser	Ser	Gly
	50					55					60				
Lys	Asn	Ser	Arg	Leu	Met	Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr
65				70					75					80	
Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys
			85						90				95		
Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr	Ile	Thr	Leu	Phe	Ala	Val	Val	Gly
		100						105					110		
Thr	Leu	Ile	Ser	Phe	Ser	Ile	Ile	Ser	Leu	Gly	Ala	Met	Gly	Leu	Ile
	115						120					125			
Ser	Arg	Leu	Asn	Ile	Gly	Ala	Leu	Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu
	130				135						140				
Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu
145					150					155					160
Ser	Gln	Asp	Glu	Thr	Pro	Phe	Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly
			165					170						175	
Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn
		180						185					190		
Phe	Asp	Leu	Gly	Asn	Phe	Ser	Ser	Leu	Lys	Phe	Leu	Gln	Phe	Ile	Gly
	195						200					205			
Asn	Phe	Leu	Tyr	Leu	Phe	Gly	Ala	Ser	Thr	Phe	Leu	Gly	Val	Ala	Ser
	210					215						220			
Gly	Leu	Leu	Ser	Ala	Tyr	Val	Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His
225					230					235				240	
Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser
			245						250					255	
Tyr	Met	Leu	Ala	Glu	Leu	Leu	Asp	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe
		260						265					270		

Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	275	280	285
Ser	Ser	Arg	Val	Thr	Thr	Lys	His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Ile	290	295	300
Ser	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	305	310	315
Glu	Lys	Trp	Lys	Ile	Val	Ser	Glu	Thr	Tyr	Ser	Pro	Met	Lys	Ser	Ile	325	330	335
Thr	Leu	Ser	Ser	Ile	Ile	Leu	Ala	Leu	Val	Leu	Val	Ala	Arg	Ala	Ala	340	345	350
Phe	Val	Phe	Pro	Leu	Ser	Tyr	Leu	Ser	Asn	Leu	Thr	Lys	Lys	Thr	Ala	355	360	365
Gly	Glu	Lys	Ile	Ser	Ile	Arg	Gln	Gln	Val	Ile	Ile	Trp	Trp	Ala	Gly	370	375	380
Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	Tyr	Asn	Lys	Phe	Ala	385	390	395
Lys	Ser	Gly	His	Thr	Gln	Leu	Pro	Ser	Asn	Ala	Ile	Met	Ile	Thr	Ser	405	410	415
Thr	Ile	Ile	Ile	Val	Leu	Phe	Ser	Thr	Ile	Val	Phe	Gly	Leu	Leu	Thr	420	425	430
Lys	Pro	Leu	Ile	Arg	Leu	Leu	Ile	Pro	Ala	Arg	His	Leu	Thr	Arg	Glu	435	440	445
Val	Ser	Ala	Leu	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser	Phe	Leu	Glu	Gln	450	455	460
Leu	Thr	Val	Asn	Gly	Pro	Glu	Thr	Asp	Val	Glu	Asn	Gly	Val	Ser	Ile	465	470	475
Arg	Arg	Pro	Thr	Ser	Leu	Arg	Met	Leu	Leu	Ala	Ser	Pro	Thr	Arg	Ser	485	490	495
Val	His	His	Tyr	Trp	Arg	Lys	Phe	Asp	Asn	Ala	Phe	Met	Arg	Pro	Val	500	505	510
Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Thr	Glu	515	520	525
Ser	Ser	Val	Pro	Leu	Leu	Ala	His	Gly	Ser	Glu	Asn					530	535	540

<210> 38

<211> 546

<212> PRT

<213> Hordeum vulgare

<400> 38

Met	Gly	Pro	Asp	Leu	Gly	Ala	Leu	Ala	Leu	Arg	Tyr	Thr	Gly	Leu	Ala	1	5	10	15
Val	Ser	Asp	His	Asp	Ser	Ile	Val	Ala	Ile	Asn	Ile	Phe	Ile	Ala	Leu	20	25	30	
Leu	Cys	Gly	Cys	Ile	Val	Phe	Gly	His	Leu	Leu	Glu	Gly	Asn	Arg	Trp	35	40	45	
Val	Asn	Glu	Ser	Thr	Thr	Ala	Ile	Val	Leu	Gly	Leu	Ile	Thr	Gly	Gly	50	55	60	
Val	Ile	Leu	Leu	Cys	Thr	Lys	Gly	Val	Asn	Ser	Arg	Ile	Leu	Ile	Phe	65	70	75	80
Ser	Glu	Asp	Ile	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	85	90	95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ala	Thr	100	105	110	
Ile	Ile	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile				

